NOV. 20 1959

PETROLEUM WEEK

A McGRAW-HILL PUBLICATION

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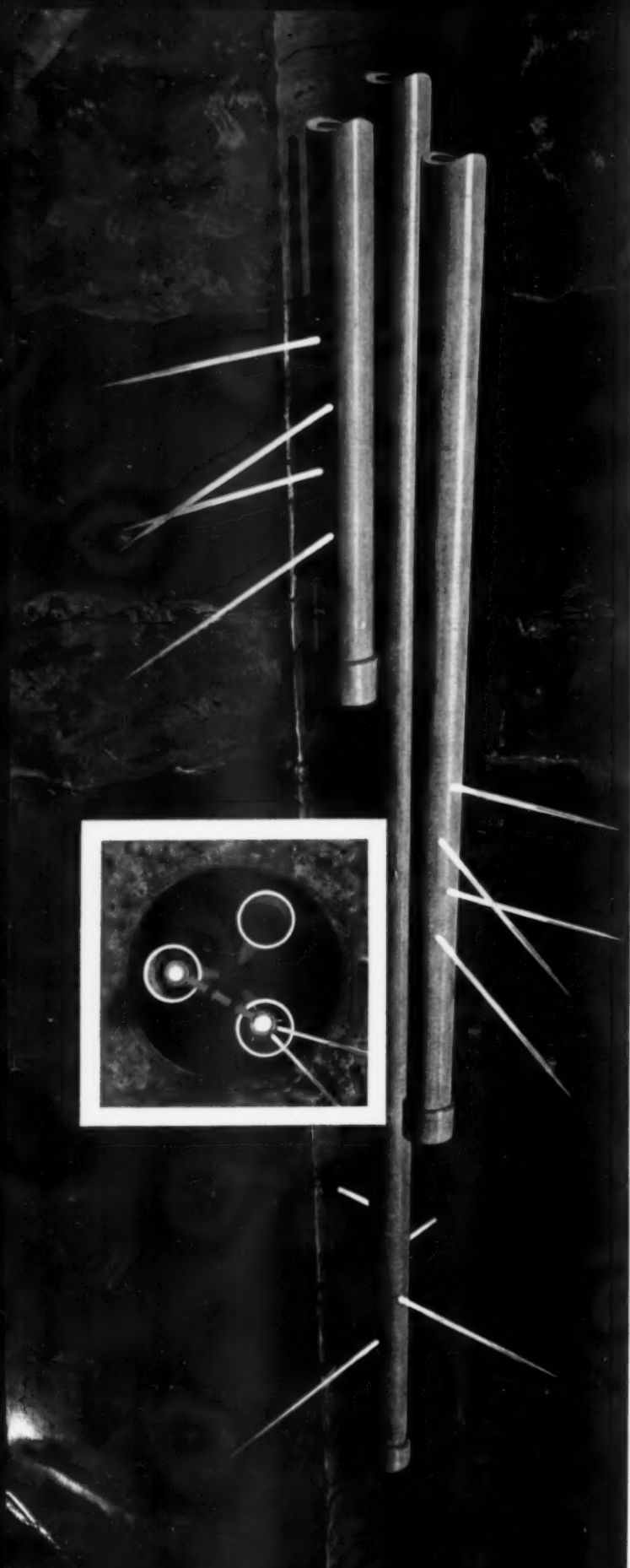


Oriented Perforating by Schlumberger . . . an Exclusive Development for New Multiple Casing Completions

Three oil wells in a single borehole . . . here is a modern completion method that reduces capital investment and lowers costs of oil production. *Schlumberger Oriented Perforating* is the modern perforating method that makes this progress possible.

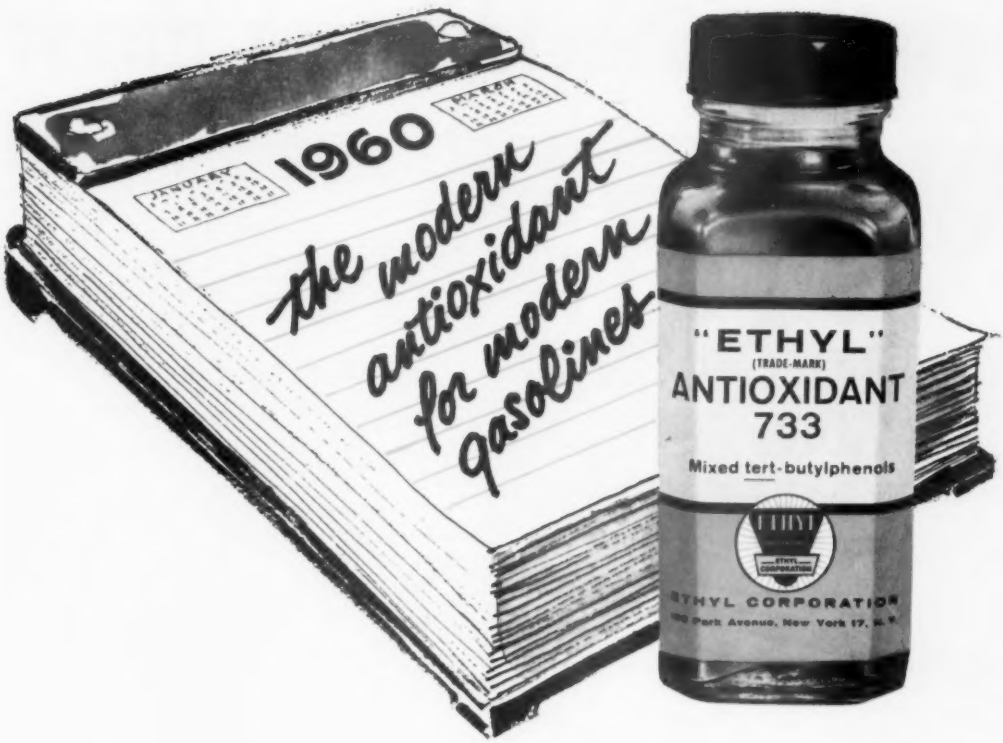
The use of slim 2⅞″ casings—cemented side by side in the same borehole to effect dual or triple completions—requires a perforating device that directs the shots to avoid penetration of adjacent casings. Schlumberger engineers have designed such a device that "sees" these adjacent casings and, at the same time, allows the operator to turn the aligned shaped charges into an unobstructed path. The result—each casing is efficiently perforated to form an independently producing well.

Schlumberger Oriented Perforating makes use of the Scallop Gun, another Schlumberger development for slim-casing completions. The Scallop Gun, a 2″ O.D., steel-carrier, shaped-charge perforator, is designed to leave no debris to bridge the small-diameter pipe and interfere with production.

The future of the industry depends on the introduction of techniques and equipment that reduce the cost of producing oil. You can depend on Schlumberger to keep pace with services which, like Oriented Perforating, contribute to further progress and economy.

THE EYES OF THE OIL INDUSTRY®

SCHLUMBERGER



Times . . . and gasolines . . . change.

As every refiner knows, the gasolines of today are far different from those of ten, or even five years ago.

Modern fuels are more stable in storage, nevertheless they still require antioxidants . . . antioxidants tailored to meet today's special needs.

"Ethyl" Antioxidant 733, a phenolic type with definite advantages over the phenylene diamine type, ideally meets all modern requirements.

733 insures stability of the complete gasoline under actual storage conditions.

733 leaves fewer induction system deposits, and does not affect gasoline color.

733 is itself more stable in storage and handling; is less toxic.

733 can cut antioxidant costs drastically—some refiners reporting savings up to 50%.

Like to know more about 733, the *modern* antioxidant for *modern* gasolines? Your Ethyl Representative will be glad to give you the facts.

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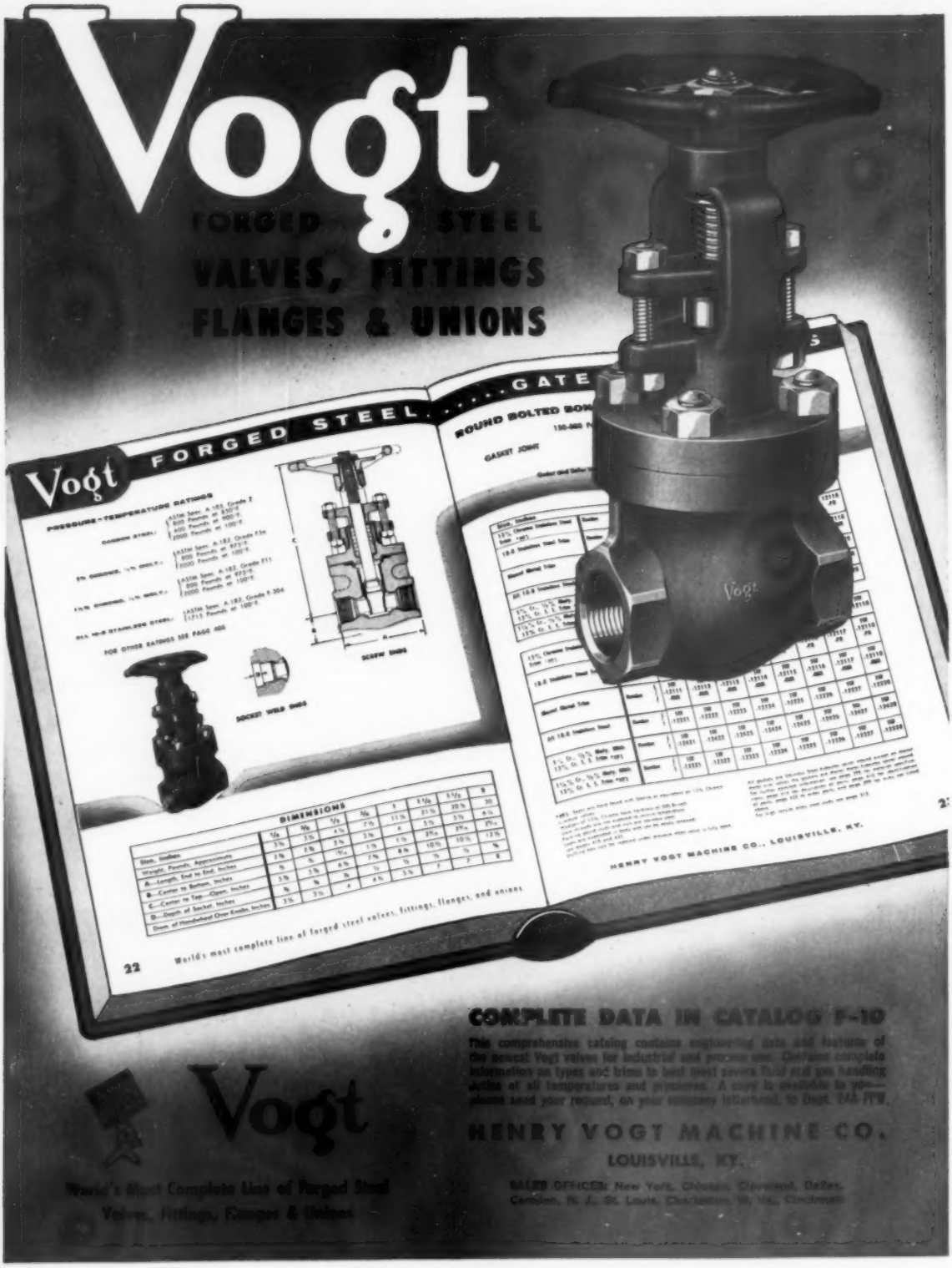
Things You Should know about



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PETROLEUM WEEK **NOVEMBER 20, 1959**
Vol. 9, No. 21

Published weekly by McGraw-Hill Publishing Co., Inc. James H. McGraw (1860-1948), founder. Publication office: 871 N. Franklin St., Chicago 10, Ill. See panel below for directions regarding subscriptions or change of address.

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INSIDE *Slant*

ROCKIES OUTLOOK BRIGHT

Everything about the enormous, sparsely drilled Rocky Mountain area points to importantly large undiscovered reserves.

That was the opinion expressed by Ira H. Cram, senior vice-president of Continental Oil Co., in a recent speech before the Rocky Mountain Oil & Gas Assn.

He said statistics indicate that, for every foot drilled in the Rockies during the 1949-58 period, 35 bbl. of crude and its energy equivalent were added to reserves. The average for the entire country was 32 plus.

The statistics also indicate that there was one dry hole drilled to each 27 sq. mi. of prospective territory in the Rockies. This compares with one for each 2 sq. mi. in Kansas, Louisiana, Texas, and Illinois.

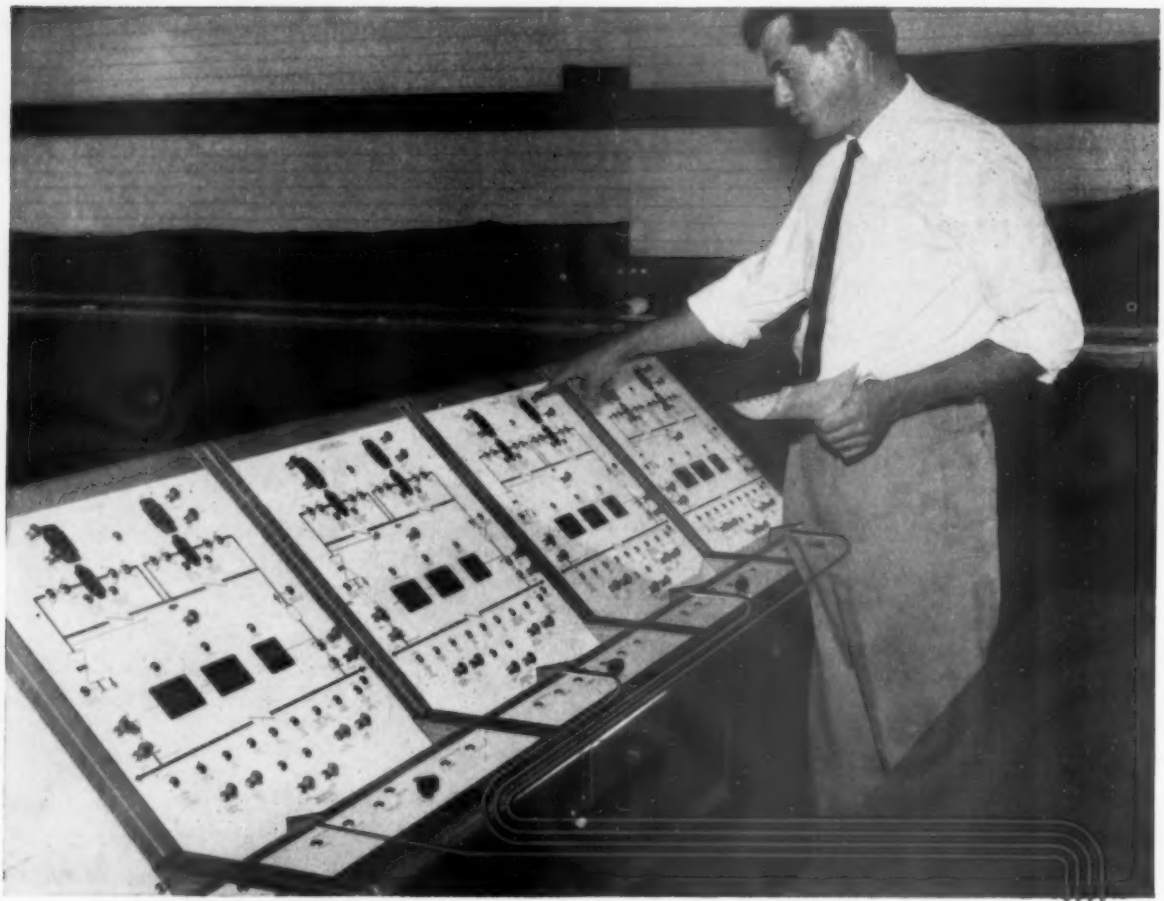
The oil-finding efforts in the Rockies have been gaining momentum.

And, Cram said, even if some other parts of the country have reached the peak of discovery, the chances are that the Rocky Mountain area has not.

This means that the Rockies will help postpone the day when the U.S. has gone over the hump in oil-finding.

LeRoy Menzing
Editor

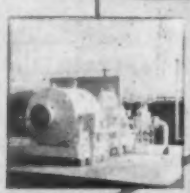
Union Centralized Transport Control pays



LOS ANGELES CONTROLLING OFFICE—The heart of the whole operation is in Los Angeles where one man at the control console can supervise the operation of four unattended pump stations 643 to 804 miles away. The operator has complete information before him showing conditions all along the line.

PHOENIX
Output Terminal

TUCSON
Output Terminal



APACHE
Unattended Booster Pump Station

REMOTE CONTROL—Either pumping unit at any one of the four booster stations can be started or stopped from Los Angeles. The sequence in opening and closing valves and starting and stopping pumps is all handled automatically and correctly by the control system.

off for Southern Pacific Pipe Lines

Push a button in Los Angeles

and four pump stations throb into action out on the desert over 600 miles away

Union Switch & Signal equipment controls operating sequence and telemeters operation of 33,000 bbl/day products line

FLEXIBILITY and fail-safe operation are the keynotes of the new pipeline system operated by Southern Pacific Pipe Lines, Inc. The line is used to transport refined products such as gasoline, jet fuel, diesel oil, etc., from El Paso, Texas, to Tucson and Phoenix, Arizona. All Centralized Transport Control equipment for four unattended booster stations was supplied by Union Switch & Signal.

REMOTE or LOCAL: All four booster stations are normally controlled from Los Angeles. Any station can be controlled locally, when desired. In any case, continuous pressure and suction readings are displayed on the console at Los Angeles and automatically recorded every fifteen minutes by an automatic typewriter. Any malfunction, at any point in the system, is indicated on the console. The equipment affected is shut down automatically and cannot be started again until the trouble has been cleared.

COMMUNICATION: Four telegraphic-type communications lines, owned by Southern Pacific, are used to transmit control codes to the stations and telemetered information back to Los Angeles. Each line serves one station. An additional commercial communications line serves as a stand-by for all four stations. Signals are coded to prevent noise or interference from causing faulty operation or indication.

MAXIMUM EFFICIENCY: The Centralized Control system, designed and installed by Union Switch & Signal Division of Westinghouse Air Brake Company, cuts down the chance for expensive error. It keeps the Southern Pacific Scheduling Department in Los Angeles informed, at all times, of exactly what is happening in the field. It speeds operation, adds security and reliability.

Union Switch & Signal has designed many successful custom systems for pipeline companies. And now out of that experience, it has developed standardized central control systems that cut costs, add flexibility, and save space, as well as making pipeline control extremely reliable.

"Pioneers in Push-Button Science"

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY
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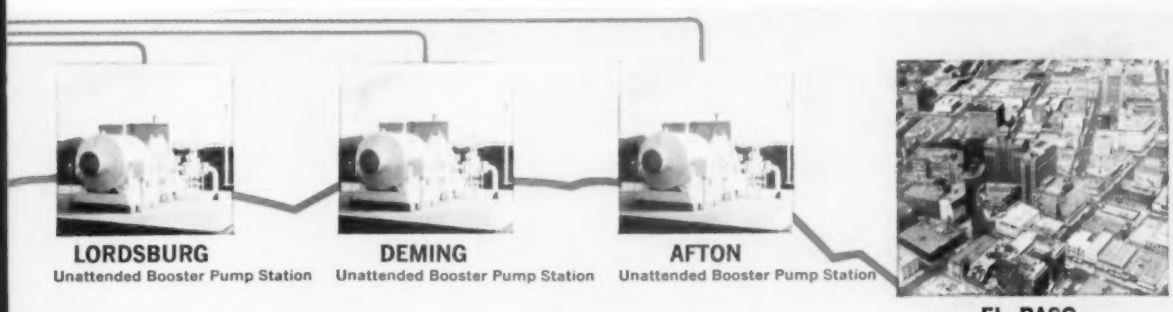


LORDSBURG
Unattended Booster Pump Station

DEMING
Unattended Booster Pump Station

AFTON
Unattended Booster Pump Station

EL PASO
Input Terminal

LOCAL CONTROL—Operation also can be controlled automatically at the pump station. Or the station can be run manually. The choice is up to the local station. But Los Angeles always knows which mode of control is being used and always receives a continuous flow of system information.

THE FUTURE—Southern Pacific Pipe Lines, Inc. can already see opportunity to make this system more automatic and more efficient. They plan, in time, to be able to let stations **adjust automatically** to proper unit operation when an upstream or downstream station goes off the line.

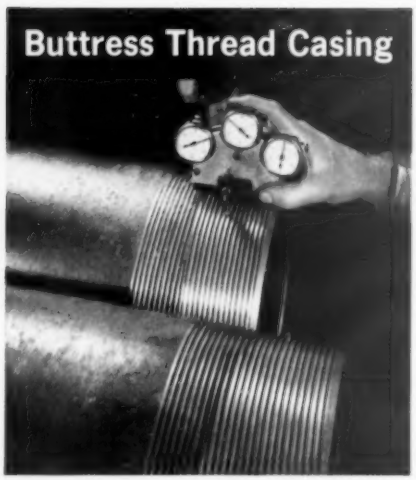
Extreme Line Casing

J&L EXTREME LINE CASING permits running rates up to 50% faster. High quality of every length is due to J&L controlled-quality steel, accurate heat treatment, joint design, precision methods of manufacture, inspection, and testing. Manufactured under license from the National Supply Company.

SHELL OIL used over 1,500 feet of 7-inch J&L Extreme Line casing as bottom-hole liner between 10,788 and 12,288 feet in this Louisiana well. Casing gave them increased clearance and positive leak resistance.

THIS NORTH DAKOTA OIL OPERATOR uses J&L Extreme Line casing for high-pressure, deep well completion. Extreme Line casing provides maximum joint strength, high running speeds and resistance to leakage.

Buttress Thread Casing

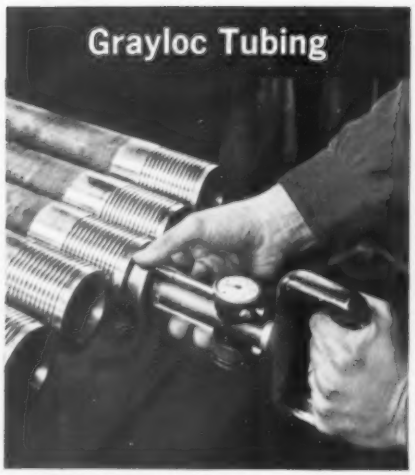


HIGH STRENGTH of J&L Buttress Thread casing is attained by combined effect of completely engaged runout threads and the three-degree flank angle of the thread. J&L's Buttress Thread production and inspection facilities are among the most advanced in the industry.

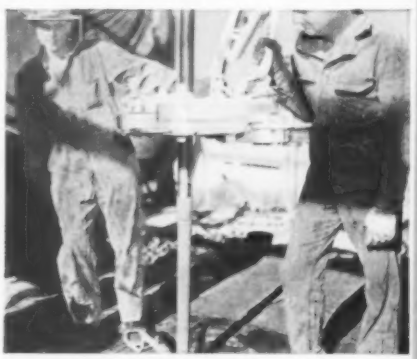
SUN OIL used 5,813 feet of J&L Buttress Thread casing in this well near Morgan City, La. The high joint strength of Buttress Thread casing in the top sections permits use of longer, heavier casing strings.

PRESSURES OVER 10,000 P.S.I. at lower depths called for J&L's EHS-150 Buttress Thread casing in this Louisiana well. To meet critical well conditions, operator used 11,650 feet of 9⅞" J&L Buttress Thread casing.

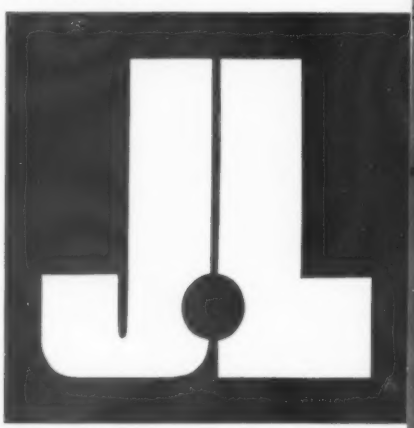
Grayloc Tubing



YOU CAN RE-RUN J&L Grayloc tubing again and again . . . and again. The tubing joint has an independent sealing ring that will hold the highest well pressures yet encountered. Modified Acme-type threads provide easy stabbing, fast make-up, high resistance to damage.



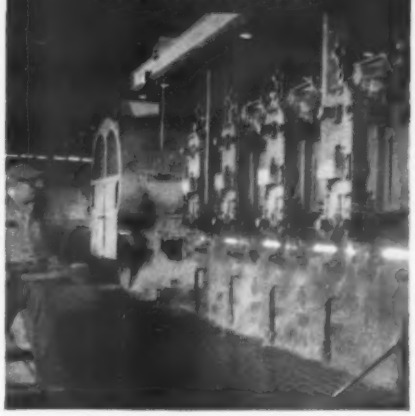
BRIGHT & SCHIFF COMPANY used J&L Grayloc tubing because of limited clearance and high pressures encountered in this dual completion well. Grayloc tubing, except in heavy weights, has smaller joint diameters than conventional external upset tubing.



Drill Pipe

J&L DRILL PIPE is readily available in grades D, E, Blue Ribbon and Blue Ribbon Vanadium. Ends are upset and finished to accommodate Flash Weld and Shrink Type tool joints. Integral joint drill pipe, a distinctive J&L product, is available in Blue Ribbon and Blue Ribbon Vanadium grades.

Standard Pipe

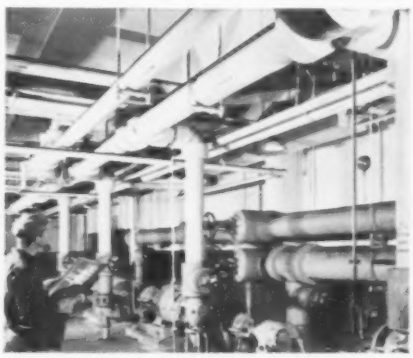


JAL-CON-WELD standard pipe is produced on two of the most modern continuous weld pipe mills. They incorporate the most advanced equipment to produce high quality standard pipe in sizes ranging from one-half inch through four inch nominal sizes. Each length is thoroughly inspected and hydrostatically tested.

Electricweld Line Pipe

EVERY LENGTH of J&L Electricweld line pipe is thoroughly inspected through visual examinations, hydrostatic tests, flattening tests and magnaflux examinations. It is manufactured and tested in strict compliance with appropriate A.P.I. and A.S.T.M. specifications.

NEARLY ALL RECORD-DEPTH WELLS have been drilled with J&L seamless drill pipe. Records for longer life and over-all efficiency are established every day with J&L drill pipe. It is made in sizes and grades to meet the requirements of wells to any depth.



OVER 1800 TONS of J&L's Jal-Con-Weld continuous weld pipe carry steam, water and air through this 34-acre Twinsburg, Ohio, plant. Contractor for the building reports J&L pipe is uniformly round, straight and easy to work. Boilers supply 150,000 pounds of steam per hour through the Jal-Con-Weld pipe.

SHAMROCK OIL AND GAS CORP. proved superior weldability of J&L Electricweld line pipe on this mountainous operation in New Mexico. Pipe bends readily to contour, is easy to weld and is uniformly round.

THIS CHEROKEE PIPE LINE CO. line in Oklahoma has 22 miles of J&L's 12¾" O.D. Electricweld line pipe. Contractor reports J&L pipe enabled him to avoid delays on the job over hilly terrain.

Everywhere you look you see pipe by J&L

. . . one of the world's largest producers of oil and gas country steel goods. J&L tubular products, drilling equipment and supplies are readily available through 33 sales offices in the United States and Canada, 80 Supply Division stores, and through leading independent distributors.

Jones & Laughlin Steel Corporation

PITTSBURGH, PENNSYLVANIA

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RUTH SHELDON KNOWLES

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DEPT/Opinions

Views That

"Integration in the petroleum industry has often been attacked as a nefarious scheme hatched for evil purposes. It is demonstrable, however, that integration first appeared not as a means to monopoly, but rather as a weapon against monopoly. An eminently desirable test of goodness and evil, in a society dedicated to the supremacy of the individual, is performance in the interest of the consuming public. Judged by that criterion, vertical integration in the petroleum industry passes with flying colors."

—ROBERT G. DUNLOP
President
Sun Oil Co.

"The chief complaint of the coal industry seems to be that the competition from fuel oil and natural gas affects its price structure. Without such competition, consumers would have to pay higher prices for fuels. It is understandable that the coal industry would like to be protected against price competition, but it seems strange that proposals designed to reduce competition should be disguised as a plea for 'an objective study' of a national fuels policy."

—RICHARD J. GONZALEZ
Director, treasurer
Humble Oil & Refining Co.

"North African oil takes a little heat off the pressure by some of the sovereigns in the Middle East area because they can see that if they get too tough, maybe the oil will come from some other area."

—H. S. M. BURNS
President
Shell Oil Co.

"We very much need to evaluate our tax structure from the point of view of its impact on incentives for efficiency and expansion as well as its tendency to compress the degree of inequality in the distribution of income."

—PAUL W. McCRACKEN
Professor, business conditions
University of Michigan

"Business must plead no special interest. It must seek no special advantage. It should, however, carry no special burden. It should receive no special penalties.

"The danger is that some among us will put artificial restraints on the economic system that can choke off

Make News

progress . . . And in the international struggle the U.S. cannot wage either an economic or a military contest with the Soviet Union if it has one arm tied behind its back."

—LAMMOT DU PONT COPELAND
Vice-president
E. I. du Pont de Nemours & Co.

"Until recent years natural gas was essentially a surplus by-product of crude production. At the time regulatory action commenced, prices were on the order of 10¢ per Mcf or less at the well head. On a Btu basis, this was equivalent to something less than 60¢ a bbl., compared to the average prevailing crude price of about $3.00 per bbl. The effect of perpetuating this abnormally low price for gas has stimulated its use at the expense of other fuels—especially oil.

"If exploration and production of oil and gas are regarded as a joint-cost operation, as they certainly are, then gas is far from carrying its share of the cost at such price levels. The result has been a substantial drop in the incentive to develop new reserves of both gas and oil."

—HERBERT HOOVER, JR.
Former U. S. Undersecretary of State

"The energy represented by coal seams and oil pools is limited . . . But as the quest of pure science is endless, so the results it may bring, the vistas it may open, are infinite."

—ALLAN NEVINS
Pulitzer Prize winning historian

"It would be a serious error, I feel, if in our enthusiasm to reach outer space and shackle the power of the atom we encouraged all of our bright young people to seek careers in those fields, to the detriment of the basic industries."

—T. S. PETERSEN
President
Standard Oil Co. of California

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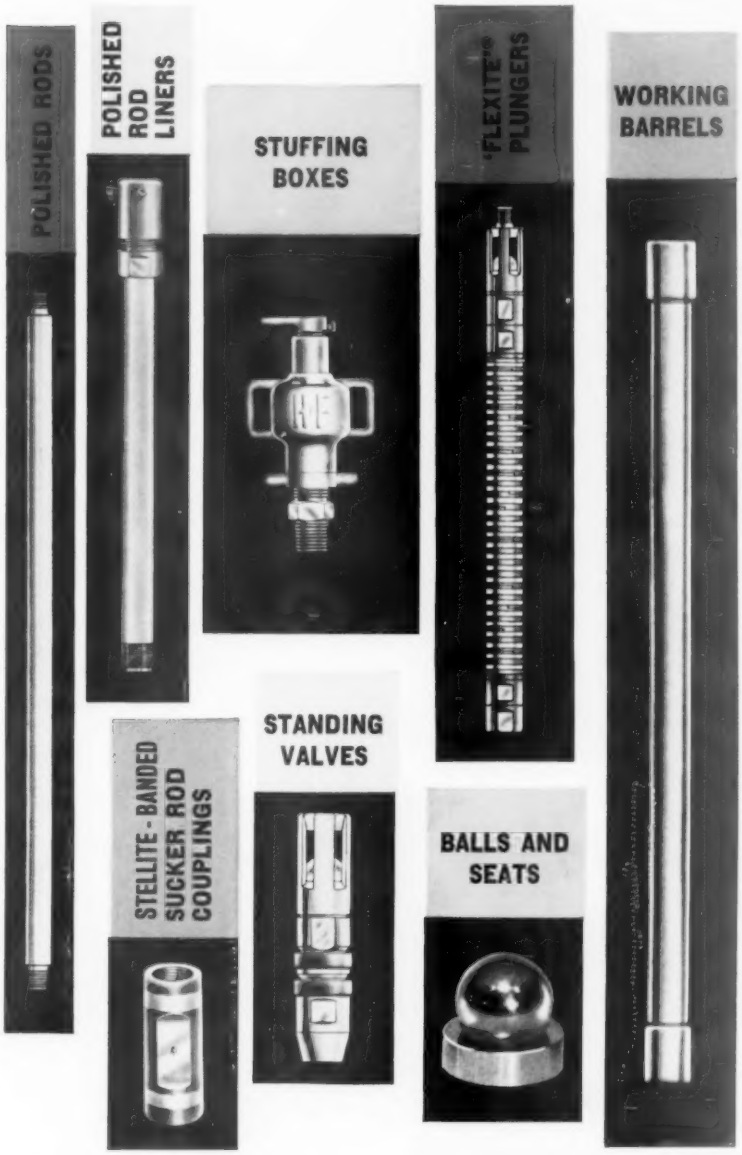

"Best in the Oil Patch"— Harbison-Fischer Pumping Accessories

They're tremendously popular with production men everywhere who use them in thousands of wells daily. The reasons? • Their superior quality and design, as produced by one of the largest manufacturers in the industry whose only business is oil well pumping equipment • And their ready-availability from leading supply stores in all major producing areas • You can depend on Harbison-Fischer service, too—from more than 50 nearby representatives and completely-stocked warehouses in Abilene • El Dorado • Fort Worth • Grayville Great Bend • Hobbs • Houston • Odessa • Oklahoma City • Shreveport • and Wichita Falls.

"BEST PUMPS IN THE OIL PATCH"

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60-Second Summary / WHAT'S HAPPENING IN OIL

November 20, 1959

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Many marketers are excited about a new institutional advertising program to stimulate gasoline sales. The multimillion-dollar proposal is still in the talking stage, but it's picking up steam fast. . . . p. 18

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Keeping employee morale high while pruning payrolls during reorganization moves is a difficult problem facing oil companies. For some, it'll take three to five years to sweat out the personnel headaches. . . . p. 20

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'Packaged unitization' is gaining acceptance in Oklahoma. Under this turnkey service, a third party takes over management of unitized properties. . . . p. 33

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Gasoline prices this week are firm, soft, sloppy—and laughably low. It all depends on where you are: Prices at the Gulf are firm, but they ease as you move inland. . . . p. 50

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Work is getting under way in India on a pipeline to open the country's only established production. The $111.3-million line will run from Upper Assam to Bihar. . . . p. 42

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Some oil country tubular goods and line pipe are rolling out of mills now. But there will be a lag in output until ingot production catches up with finishing mills. . . . p. 17

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Epoxies may soon be facing strong competition from other resins with similar properties. The "epoxides" are said to have several advantages over the epoxies. . . . p. 36

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Alberta's Judy Creek field is already starting to look like a major field—only seven months after its discovery. And the Canadian hotspot shows bright promise. . . . p. 24

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Pipeliners are now using a basic exploration technique to speed up ditching programs. It's said that seismic analysis of rock formation is fast and inexpensive. . . . p. 40

•

Oil heat marketers are shifting into high gear with plans for a unified drive on gas. Last week they laid the foundation for a centralized oil heat organization. . . . p. 45

•

There's hope now that oil companies can reduce the high cost of spare parts inventories. A standardized nomenclature is the first objective of the petroleum buyers group spearheading the program. . . . p. 20

Up to the Minute / SIGNIFICANT LATE NEWS

November 20, 1959

Interior Secretary Fred Seaton expects "some increase" in residual fuel import allocations—presumably for the January-June period. He says that such an increase was included in "a number of changes—none major" that he recommended to the White House this week.

•

The Russians reportedly have made a grandstand play to get into the Mexican petroleum picture. Informed sources say the Soviets have offered to construct a "petrochemicals city" for Pemex, the government oil monopoly, and have dangled an extra-long-term payment plan as bait. It is thought likely, however, that Mexico will turn the offer down for fear of jeopardizing its credit relations in the U.S. and Europe. The maneuver coincided with this week's opening of a Russian cultural exposition in Mexico City, similar to the one held in New York last summer.

•

The normal unit crude allowable for southeastern New Mexico has been increased 1 b/d for December. The state Oil Conservation Commission set it at 36 b/d this week. It also specified an allowable of 52 b/d for the northwest, the same as in the current month.

•

The Federal Power Commission may still try to force an opinion on the validity of "favored nation" clauses in a Pure Oil rate case. The Commission had asked an examiner to decide whether favored-nation pacts—allowing producers the benefit of any higher price paid by their purchasers in a given area—are "void or voidable as contrary to public interest."

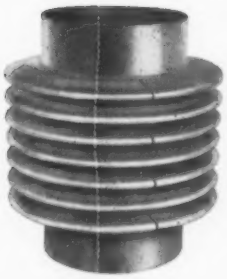
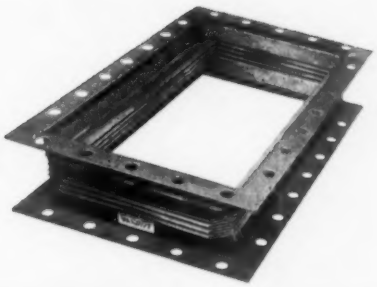
The rate increases sought by Pure were thrown out for "lack of justification." Pure contended that one of its buyers—El Paso Natural Gas Co.—had triggered a favored-nation increase by paying West Texas Gathering Co. 16¢ per Mcf., while paying Pure 10.5¢ to 11.17¢ per Mcf. in the same area. The examiner held that West Texas is a pipeline company, not a producer, and that escalation clauses were not applicable. But FPC staff members are studying the Pure case to determine if it could be made a test of favored-nation clauses.

•

Two more U. S. oil companies are teaming up with French firms for exploration in Africa. Continental Oil Co. and Cities Service Oil Co. are winding up negotiations with the French government which will give them acreage in Mauritania and Senegal in French West Africa. The American firms will have 24.5% interest in each venture.

•

The Justice Dept. says it's still studying the reorganization plans of Standard Oil Co. (N.J.), but indicates it will not oppose them. Atty. Gen. William Rogers said the department's antitrust study of the Jersey unification program has not been concluded. But in the same breath, he observed that it was "pretty much a wholly owned subsidiary" affair.

Solar  builds 

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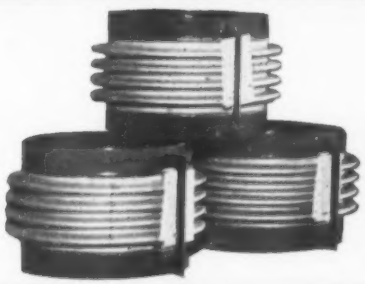
array of  industrial

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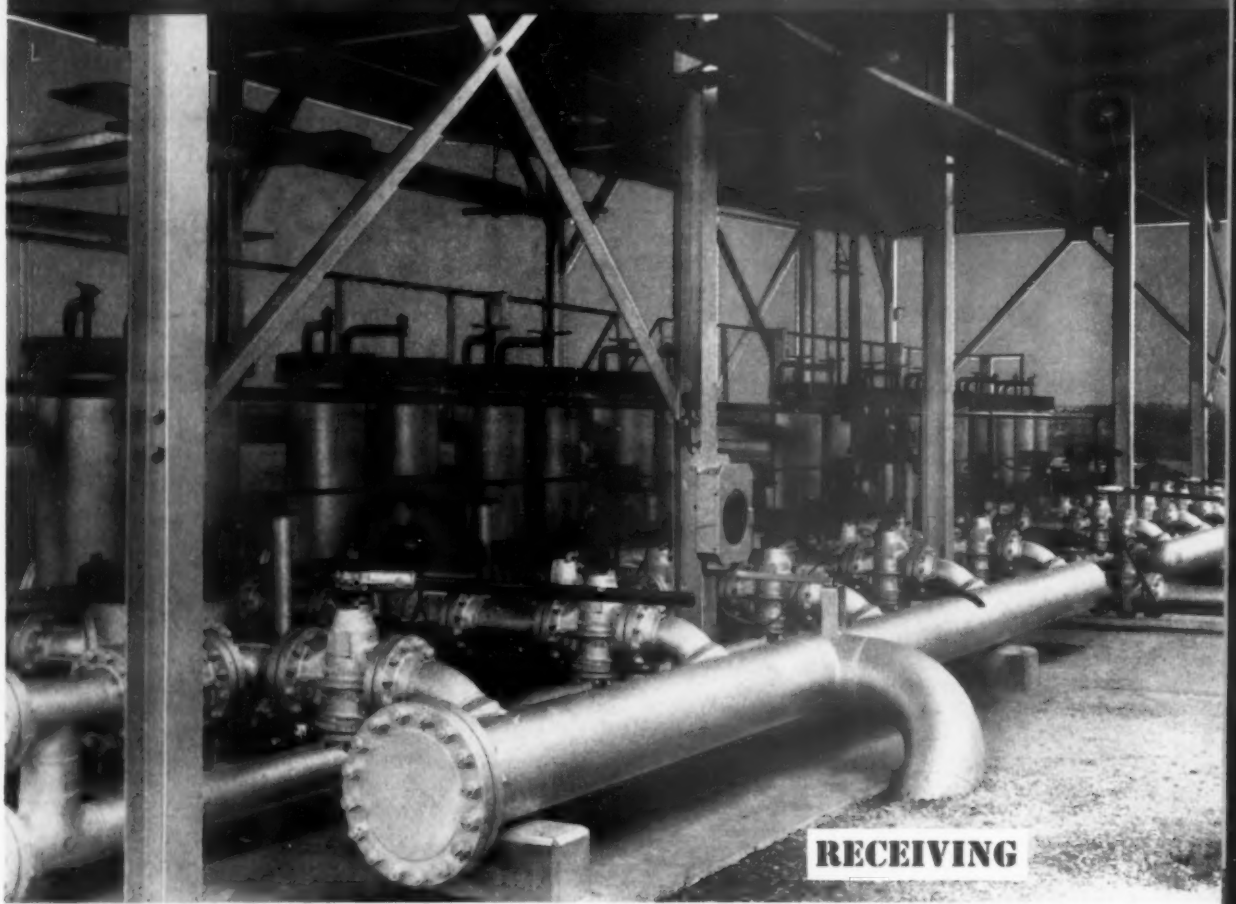

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This Gulf Coast terminal is just one example of job-site benefits that can be duplicated for you by A. O. Smith. For more information, contact your A. O. Smith meter man or write direct.

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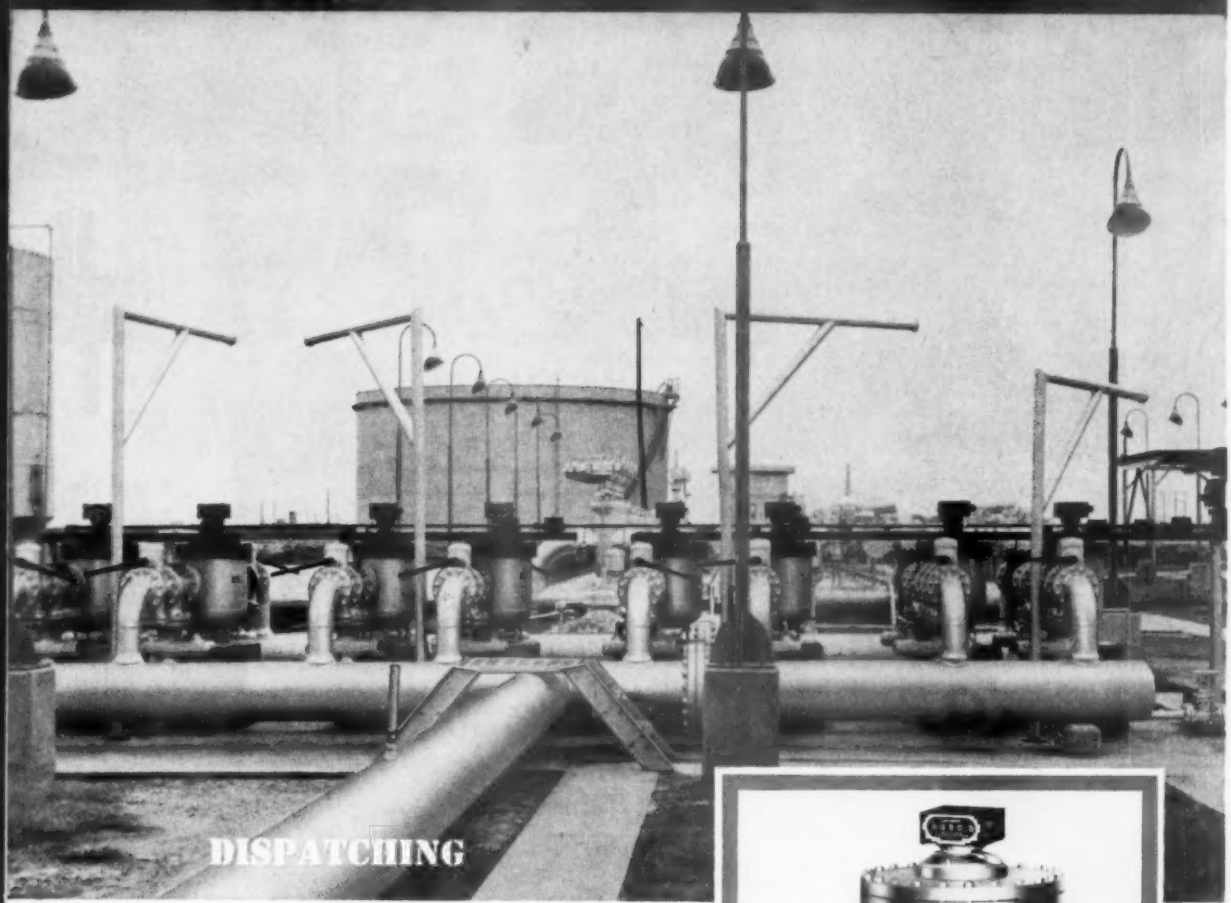

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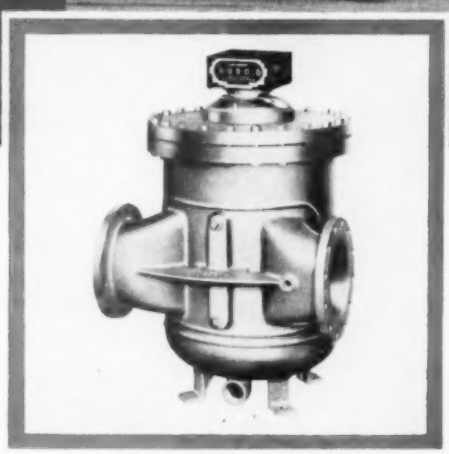

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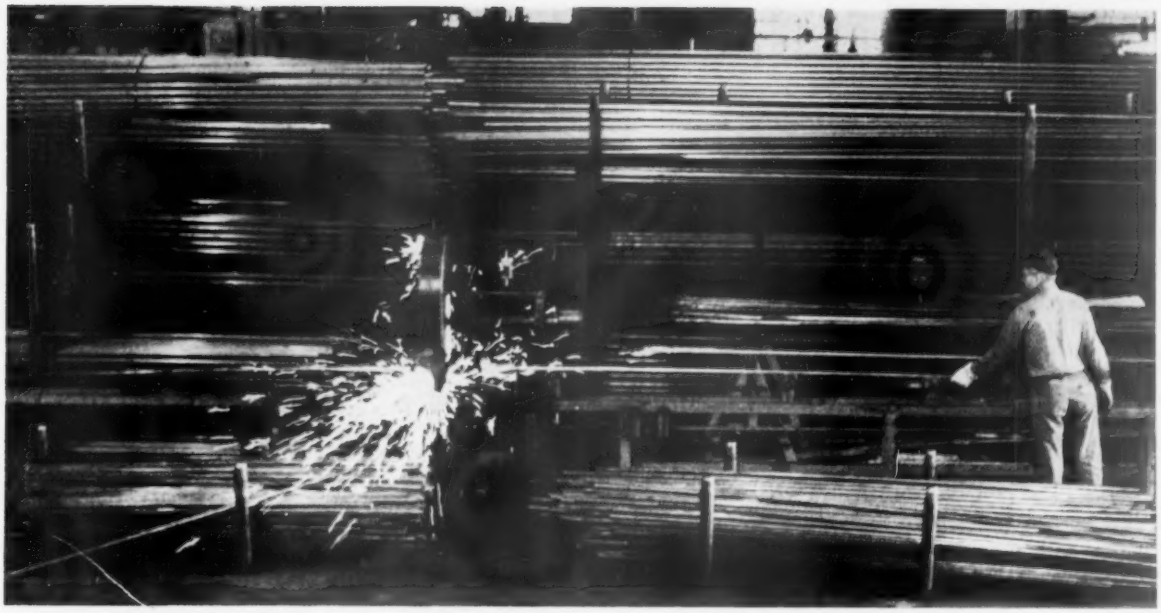

Steel Output to Run Below Demand

Steel mills are moving rapidly toward capacity ingot production, only two weeks after reopening. But on finished tonnage, output won't reach peak levels until December.

That is the steel situation as the industry resumed operations after the 116-day strike. The strike, according to estimates, reduced the finished steel inventories in the U. S. to between one-fifth and one-third of the total supply available when the strike started July 14.

Ingot mills scheduled operations this week at a nationwide rate of 78.9%—or double the previous week.

Shipments of finished oil country tubular goods and line pipe between now and January will run well below demand.

Output started out of the mills fast, but most likely will lag some before the finishing mills can be supplied with new semifinished steel.

The first rush of output from the finishing mills represented unfinished orders that were being completed when the strike hit. But in order to get out as much finished tonnage as possible before the strike, the normal working stocks in finishing mills were depleted.

So now the finishing mills will have to wait for ingot production to "catch up."

Should the United Steelworkers of America walk out again when the 80-day Taft-Hartley Act injunction expires Jan. 26, the steel produced during the period would amount to only a trickle for the oil industry.

Nearly all shipments of oil industry steel that will be made during the "cooling off" period will consist of orders on the books prior to the court-ordered start-up.

New orders coming in since the mills reopened won't be ready for shipment until the first quarter of 1960. In some mills, pipe orders now coming in are promised for March delivery—assuming no work stoppage.

And in other mills, the delivery promise on current orders is the second quarter of 1960.

Another work stoppage in January undoubtedly would curtail drilling operations sharply, since operators already are running tight on tubing and small-diameter pipe.

Most mills will be working on heavy-tonnage items during the current operating period, and the expectation is that output of the lighter-type tonnage—which requires as much finishing time as larger pipe—will be limited.

Also, there will be little or no production from the mills before the end of January to build depleted inventories in supply stores.

Steel officials say that such inventory-building won't be started until late in the first quarter, even if there are no interruptions.

During the remaining portion of the 80-day work period, the steel companies are planning a full-scale publicity drive to encourage steel workers to vote favorably on a contract offer and stay on the job.

Under the Taft-Hartley injunction procedure, bargaining must be continued during the cooling-off period.

Some time between Jan. 6 and Jan. 21, the National Labor Relations Board must conduct a secret vote of all steel workers involved in the dispute on the employers' last offer.

The 11 steel producers still at odds with the union will drive hard at the local plant-town level through the Steel Companies Coordinating Committee to publicize their position, hoping to counteract the union demands for a pact similar to the 22½¢-an-hour package granted by Kaiser Steel Corp.

Marketers Debate Advertising Plan

It's a $3-million promotional campaign to stimulate gasoline demand. It caught fire in Chicago, and will come up for full discussion in January.

A proposed multimillion-dollar advertising campaign to stimulate gasoline demand has many oil marketers talking excitedly about its prospects and possibilities.

It came up last week, in routine fashion, at the American Petroleum Institute's annual meeting in Chicago. And, although it was only a committee report, it caught fire faster than the one that swept Chicago years ago.

Marketers who attended the committee session came away with enthusiastic endorsement of the whole concept, and strong feelings that the program should be activated quickly.

A special meeting of the general committee of API's Division of Marketing will be held in January to appraise the impact and potentials of the program.

It had been the intention of the committee, headed by H. L. Moir, retail marketing vice-president of Pure Oil Co., to present the campaign to the general committee during the Chicago sessions.

But others felt that its possibilities were so great that the general committee didn't have enough time in Chicago to give it the kind of consideration it merited.

Hence, the general committee will be convened shortly after the first of the year to spend a full day discussing its possibilities and reviewing the materials at hand.

The promotion campaign envisages weekly newspaper advertisements, television commercials, cooperative tie-ins, and similar items.

There would be, for example, full-page ads, once a week, in major commercial publications. Color and black-and-white ads would be used periodically in magazines and Sunday supplements. Trade publications would receive advertisements, too, and special filmed bits would be prepared for TV commercials.

Another aspect would be to coordinate publicity campaigns with motels, tire manufacturers, and others who would derive benefits from increased motoring.

Another facet would involve endorsement of the proposal to "change the holiday calendar."

This idea, which has been talked about at various times in the past, would recognize weekday holidays but would delay their observance until the following weekend.

This would create eight or more three-day holiday weekends a year. Proponents of the idea say it would avoid one-day holiday disruptions to business generally, and would have greater benefits for individuals. Marketers estimate eight three-day weekends could boost annual gasoline demand 2%.

The cost of the proposed campaign—if it is undertaken—would run to $3-million or more.

Although the details of the financing are yet to be worked out, Moir's committee indicated that there would be no need for an API appropriation or special assessment.

It was believed that the funds for the campaign would be generated within the marketing divisions of the participating companies.

The Moir committee noted, however, that a campaign including color in its advertising would run about $3.1-million, while straight black-and-white advertisements could keep the cost at $2.4-million.

Supporters of the proposed campaign expressed the hope that it would receive industry endorsement. The presentation is such that "you have to see it to appreciate the scope and the potential," they said.

Meanwhile, the API board of directors deferred until February a decision on the time and place for the 1962 annual meeting.

This is unusual, for the board customarily selects the site at the November meeting. It is essential that the time and place be selected at least two years in advance so that hotel commitments can be obtained.

The 1960 and 1961 meetings already are booked for Chicago.

The West Coast made a strong bid for the '62 meeting, for either Los Angeles or San Francisco. But many executives are reluctant to take the meeting back to California because of the adverse publicity and complaints that resulted from meetings there in 1950 and 1955.

Miami Beach and New York City were among other cities that made bids. Rather than get caught in a last-minute debate at the end of a long afternoon, the executive committee instructed the staff to work up alternate recommendations and present them to the February meeting in New York.

The API budget for 1960, as approved, represented another belt-tightening.

All of the divisional budgets had been pruned and repruned in advance of the Chicago meeting, reflecting managements' roughened attitude on outgoing dollars and contributions.

This is the third year in a row that API's budget has been trimmed. The 1960 budget is comparable to the current budget, but it is "considerably below" the preliminary estimate submitted to the executive committee last September.

Oil Pushes Depletion Campaign

Members of Congress are getting an increasing amount of mail in support of oil and gas depletion—and hardly any against the tax provision.

Current hearings on taxation by the House Ways & Means Committee—with depletion testimony scheduled Dec. 1—have triggered a spurt of letter-writing by constituents favoring depletion.

Much of the mail is credited to a new informational campaign being pushed by Gulf Oil Corp.

Gulf has been operating a Washington office staffed with a registered lobbyist and a political writer-public relations specialist.

Gulf mailed a 23-page illustrated pamphlet, entitled "Percentage Depletion—a Provision for Progress" to all employees and stockholders. The pamphlet, which tells the depletion story in lay language, ends:

"Explain it to your friends and neighbors—to your congressman, your doctor, your lawyer, and your local merchants—to anybody that you can get to stand still and listen."

Gulf's is not the only program on percentage depletion. The Independent Petroleum Assn. of America has been an active campaigner for years and is working hard now.

The promotional efforts are an at-

tempt to explain the issues involved in this complicated subject in terms the average citizen can understand.

All too frequently, the oil industry has been pictured by some congressmen as the beneficiary of a major tax "giveaway."

A spot check of congressional offices shows that mail favoring depletion is particularly evident from the eastern consumer states—traditional stronghold of antidepletion sentiment.

Sen. Kenneth Keating (R.,N.Y.) has received about 30 letters on depletion this year—with only two opposed to the provision.

Keating did not vote on a depletion-cutting amendment offered in the Senate earlier this year because he owns oil stock.

The office of Sen. Joseph Clark (D., Pa.), who has taken a leading role in the effort to cut the present 27.5% depletion rate, reports Clark is getting "five to ten letters a day" opposing any change.

A woman from a small Pennsylvania town wrote that depletion "is a provision for progress, benefitting both the oil industry and the nation."

A city businessman wrote saying depletion "is vital to all citizens of the U.S., as well as to the extractive industries."

Sen. Hugh Scott (R., Pa.), is getting 10 to 15 letters a week in favor of depletion. Some correspondents mailed the Senator copies of the Gulf depletion pamphlet.

Sen. John Kennedy (D., Mass.), a presidential aspirant who has voted both for and against various depletion proposals, receives "a steady trickle" of mail—about 15 letters last month —on depletion. Only a few urge Kennedy to vote against the provision.

Sen. Jacob Javits (R., N.Y.), an opponent of 27.5% depletion, gets more mail opposing his stand than favoring it. But the letters are few.

Most southern and western senators appear to be getting little mail, although letters are frequently diverted to hometown offices when Congress is not in session.

Most of the writers are concentrating on the Senate, rather than the House. Although the House Ways & Means Committee will study the issue next month, all of the votes in recent years have been in the Senate.

Congressional workers warn, however, that mail doesn't necessarily dictate a member's vote.

"Don't forget," warns one assistant to a congressman, "that most people simply don't write—either for or against an issue."

FTC Hits TBA 'Coercion'

A Federal Trade Commission examiner ruled this week that Atlantic, Shell, and Texaco should be enjoined from "unlawful coercion" in their relations with their dealers on handling tires, batteries, and accessories.

The ruling by Examiner Earl J. Kolb was on a complaint brought by FTC three years ago against Atlantic Refining Co. and Goodyear Tire & Rubber Co.; Shell Oil Co. and Firestone Tire & Rubber Co.; and Texaco Inc. and B. F. Goodrich Co.

In a ten-point ruling, the examiner held, however, that contracts among the oil companies, dealers, and TBA distributors did not "contain any clause or provision requiring such dealers or distributors" to buy certain lines.

But Kolb ruled that oil company representatives "in fact attempted to, and did, coerce and force" dealers to buy substantial quantities of sponsored TBA goods.

Such practices, he said, are in violation of Section 5 of the Federal Trade Act prohibiting "unfair" competitive methods.

Two of the companies—Shell and Texaco—appeared satisfied with the format order in the case.

Shell noted that the "order is limited to enjoining Shell from coercive practices . . . which . . . we were not doing."

Texaco said "there is no violation . . . in our recommending that dealers purchase . . . from companies whose brands are nationally known.

Experts Eye Prorated Waterfloods

New Mexico's decision to prorate waterflood production will keep industry experts on the watch to see how the pioneering plan works out.

Some observers hailed the action of the state's Oil Conservation Commission as a "step in the right direction." Others questioned the wisdom of the move which creates a "project allowable" for new waterflood operations.

Since the order is not retroactive, however, it will have no effect on present waterflood operations or approved pilot projects.

The formula is complex. In brief, it determines the maximum allowable for any new waterflood project by "multiplying the number of proration units times the basic area allowable factor times the appropriate proportional [depth] factor for the pool."

The commission set basic unit allowables for waterfloods of 42 b/d in the southeastern section of the state, and 52 b/d in the northwest, on a 40-acre basis. Normal unit allowables for November, set previously, are 35 b/d in the southeast and 52 b/d in the northwest.

Most of the state's waterflood operators had argued against the rule change, contending that maximum production was necessary to assure full recovery.

But the commission strung along with its chief engineer, Dan S. Nutter, who held that proration would not affect ultimate recovery, and that waterflood output tended to reduce allowables for primary producing wells.

Shaner Elected Head of Oil Writers

J. Richard Shaner, of Petroleum Week's general news department, is the new president of the Assn. of Petroleum Writers.

Shaner is one of the newest active members of APW. He joined PETROLEUM WEEK last June, after serving 11 years as press relations director of the American Petroleum Institute. During that time, he was an associate member of APW.

Shaner is the second Petroleum Week member to serve as president. LeRoy Menzing, editor-in-chief, was president at the time he joined the magazine in May 1956. In fact, Menzing was one of the organizers of the oil writers group, having been its initial vice-president.

Two other PETROLEUM WEEK staffers have served as APW officers. Both Robert E. Spann, general news editor, and Wanda M. Jablonski, columnist and international editor, have been vice-presidents.

Oil Works For Painless Staff Changes

Oil companies today are facing more than ever before the difficult task of trying to keep employee morale high while making necessary staff cuts and changes during reorganization and consolidation moves.

During the long period of continued growth in the industry, "mass" layoffs were few and far between. And in most companies, liberal pension plans and other benefits made for good over-all industry employee relations.

But now, some of the largest companies are going through a "shaking out" period, through consolidations of departments and merger of affiliates, which is bringing a major upheaval in oil industry personnel.

The most significant reduction in employees will result from the proposed merger of five U.S. affiliates of Standard Oil Co. (N.J.) into one operating company.

Esso Standard, Humble of Texas, Carter Oil, Oklahoma Oil, and Pate Oil will be merged into a new operating company: Humble Oil & Refining Co. of Delaware, if stockholders approve.

Two other companies—Socony Mobil Oil Co. and Gulf Oil Corp.—are facing similar problems in employee relations as they continue to reorganize through consolidations designed to tighten their corporate structures.

A trend toward greater efficiency in oil company personnel has been in the making for some time—a natural outgrowth of the moves in nearly all firms for improved operating economies.

Many companies are frank to admit that they "over-hired" people during the long upswing of oil demand in the postward period. A few companies recognized the need for big staff reductions three to four years ago with the result that some employees—refinery workers and geologists in particular—felt the axe.

Since then, the tightening of competition in the industry has caused other companies to look for ways to reduce the high costs of personnel.

Before the major reorganization move started in the Jersey affiliates, Esso Standard was one of the first to reduce its surplus refinery personnel.

In the first half of 1959, that department operated with 1,700 fewer employees, and processed 20% more crude, than in the first half of 1958.

The savings in labor cost amounted to 10%, despite a 5% increase in general wages at the start of 1959.

The problem of staff reductions won't be solved overnight; for some companies it may continue for three to five years.

Most executives directly concerned with dismissals admit frankly that they are worried about sustaining morale over that long a period.

They agree that a clean sweep over as short a period as possible is better than incomplete changes that will keep layoffs dribbling for a long period of time.

Generally, companies making personnel cuts feel that the less said about layoffs, the better the morale of the peope that remain.

"We think it's much better for morale not to remind the whole staff that the axe is falling," says an executive of one company.

This company did not inform its department heads of its reorganization in advance of the general announcement.

But another company, which also wants as little publicity as possible, did explain its plan to its department heads before announcing it publicly.

Early retirement and liberal termination allowances are the most common ways of softening the blow for people that must be let go.

Most companies are offering early retirement plans that provide compensation nearly equal to that available at normal retirement age.

However, some company department heads report that these plans can also create problems. Some men are offended by being offered early retirement, while others, who are kept on because they are still valuable to their organizations, feel slighted because the plan had not been offered to them.

One company has a pamphlet prepared for its department heads suggesting ways for making dismissals as painless as possible for employees.

The theme of the pamphlet is "Try to keep morale as high as possible." The company wants to avoid having hostile ex-employees, or a suspicious staff.

Each department head is made responsible for making cuts that are fair and equitable to his staff.

Buyers Tackle Spare Part Stocks

Petroleum equipment buyers hope to adopt an industry-wide program to reduce the amount of money tied up in spare-parts inventories.

The financial burden resulting from overstocking of interchangable items and "left-over" parts is the major parts inventory problem of oil companies.

An industry coordinating committee—the Inventory Utilization Committee—was set up last year to study means of reducing inventories.

The program, which took concrete shape at last week's American Petroleum Institute meeting, is a giant step toward standardizing spare-parts nomenclature.

T. C. Banta, vice-president and director of purchases for Sinclair Refining Co., and chairman of the committee, outlined the recommendations in a ten-point program.

Besides standardization of spare-parts terminology, the committee wants oil companies to catalog spare parts in such a way that they can readily determine interchangeability either among their own plants or with plants of other oil companies. The committee also is encouraging equipment manufacturers to share inventory responsibilities by carrying larger and more diverse stocks of spare parts.

The program, as it now stands, is confined to spare parts for major mechanical equipment, used primarily in processing.

The list includes such equipment as centrifugal pumps, centrifugal and reciprocating compressors, steam and gas turbines, and centrifugal blowers.

The next step will be to extend the coverage to include equipment used in other branches of the industry.

Right now, Banta says, each company must concentrate "on setting up an intracompany program. Then a means of interchangeability between different companies, both using the basic list of equipment. Later on, it may be desirable to extend the list to include all heavy equipment used in the petroleum industry."

The first big move will be to get individual companies to standardize their own spare-parts nomenclature.

This would cover both existing equipment and new equipment purchases.

The committee would work with the industry to develop a universal

numerical spare-parts code for adoption by equipment manufacturers and the oil companies.

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Oil Works For Painless Staff Changes

Oil companies today are facing more than ever before the difficult task of trying to keep employee morale high while making necessary staff cuts and changes during reorganization and consolidation moves.

During the long period of continued growth in the industry, "mass" layoffs were few and far between. And in most companies, liberal pension plans and other benefits made for good over-all industry employee relations.

But now, some of the largest companies are going through a "shaking out" period, through consolidations of departments and merger of affiliates, which is bringing a major upheaval in oil industry personnel.

The most significant reduction in employees will result from the proposed merger of five U.S. affiliates of Standard Oil Co. (N.J.) into one operating company.

Esso Standard, Humble of Texas, Carter Oil, Oklahoma Oil, and Pate Oil will be merged into a new operating company: Humble Oil & Refining Co. of Delaware, if stockholders approve.

Two other companies—Socony Mobil Oil Co. and Gulf Oil Corp.—are facing similar problems in employee relations as they continue to reorganize through consolidations designed to tighten their corporate structures.

A trend toward greater efficiency in oil company personnel has been in the making for some time—a natural outgrowth of the moves in nearly all firms for improved operating economies.

Many companies are frank to admit that they "over-hired" people during the long upswing of oil demand in the postward period. A few companies recognized the need for big staff reductions three to four years ago with the result that some employees—refinery workers and geologists in particular—felt the axe.

Since then, the tightening of competition in the industry has caused other companies to look for ways to reduce the high costs of personnel.

Before the major reorganization move started in the Jersey affiliates, Esso Standard was one of the first to reduce its surplus refinery personnel.

In the first half of 1959, that department operated with 1,700 fewer employees, and processed 20% more crude, than in the first half of 1958.

The savings in labor cost amounted to 10%, despite a 5% increase in general wages at the start of 1959.

The problem of staff reductions won't be solved overnight; for some companies it may continue for three to five years.

Most executives directly concerned with dismissals admit frankly that they are worried about sustaining morale over that long a period.

They agree that a clean sweep over as short a period as possible is better than incomplete changes that will keep layoffs dribbling for a long period of time.

Generally, companies making personnel cuts feel that the less said about layoffs, the better the morale of the peope that remain.

"We think it's much better for morale not to remind the whole staff that the axe is falling," says an executive of one company.

This company did not inform its department heads of its reorganization in advance of the general announcement.

But another company, which also wants as little publicity as possible, did explain its plan to its department heads before announcing it publicly.

Early retirement and liberal termination allowances are the most common ways of softening the blow for people that must be let go.

Most companies are offering early retirement plans that provide compensation nearly equal to that available at normal retirement age.

However, some company department heads report that these plans can also create problems. Some men are offended by being offered early retirement, while others, who are kept on because they are still valuable to their organizations, feel slighted because the plan had not been offered to them.

One company has a pamphlet prepared for its department heads suggesting ways for making dismissals as painless as possible for employees.

The theme of the pamphlet is "Try to keep morale as high as possible." The company wants to avoid having hostile ex-employees, or a suspicious staff.

Each department head is made responsible for making cuts that are fair and equitable to his staff.

Buyers Tackle Spare Part Stocks

Petroleum equipment buyers hope to adopt an industry-wide program to reduce the amount of money tied up in spare-parts inventories.

The financial burden resulting from overstocking of interchangable items and "left-over" parts is the major parts inventory problem of oil companies.

An industry coordinating committee—the Inventory Utilization Committee—was set up last year to study means of reducing inventories.

The program, which took concrete shape at last week's American Petroleum Institute meeting, is a giant step toward standardizing spare-parts nomenclature.

T. C. Banta, vice-president and director of purchases for Sinclair Refining Co., and chairman of the committee, outlined the recommendations in a ten-point program.

Besides standardization of spare-parts terminology, the committee wants oil companies to catalog spare parts in such a way that they can readily determine interchangeability either among their own plants or with plants of other oil companies. The committee also is encouraging equipment manufacturers to share inventory responsibilities by carrying larger and more diverse stocks of spare parts.

The program, as it now stands, is confined to spare parts for major mechanical equipment, used primarily in processing.

The list includes such equipment as centrifugal pumps, centrifugal and reciprocating compressors, steam and gas turbines, and centrifugal blowers.

The next step will be to extend the coverage to include equipment used in other branches of the industry.

Right now, Banta says, each company must concentrate "on setting up an intracompany program. Then a means of interchangeability between different companies, both using the basic list of equipment. Later on, it may be desirable to extend the list to include all heavy equipment used in the petroleum industry."

The first big move will be to get individual companies to standardize their own spare-parts nomenclature.

This would cover both existing equipment and new equipment purchases.

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numerical spare-parts code for adoption by equipment manufacturers and the oil companies.

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Looking Ahead in Washington

McGraw-Hill
Washington
Bureau
November 20, 1959

Industry leaders are anticipating stronger White House support in 1960 for natural gas legislation—stronger, at least, than in past years of the Eisenhower Administration. One reason is the replacement of Sherman Adams by Gen. Wilton Persons as the President's top assistant. Many gas bill backers blamed Adams for the 1956 veto of the Fulbright-Harris bill. A top producer representative recently visited Persons and discussed the need for legislation.

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Chances are dimming for any early underground nuclear bomb test. The Atomic Energy Commission is continuing to look with favor on the idea, which the petroleum industry sees as perhaps leading to new production methods. AEC's most recent effort has been to name a "plowshare" advisory committee: 12 men to help the commission "on the general orientation and policies of the program." But the international situation casts severe doubts that any explosion will be approved in the near future. The one-year test ban of the U. S. ended Oct. 31, and, although no official extension has yet been ordered, top officials indicate AEC will drag its feet on "plowshare" for fear such a test might hurt U. S. arguments in the delicate disarmament negotiations in Geneva.

Canadian reaction to an atomic blast in the tar sands is shifting, too. During the Khrushchev visit to the U. S., a Canadian official told newsmen there was little chance the test in Canada by Richfield Oil Corp. (L. A.) would be approved. The Richfield proposal is said to be still "under consideration" by the Canadians—but with dwindling odds that the explosion will come off anytime soon.

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Federal Power Commissioner William Connole wants Congress—not the executive branch—to define energy policy. Connole, in a speech to a Washington bar group, cited the absence of policy guidelines as the greatest weakness in governmental regulatory activities. He differs with the recommendations of Louis B. Hector, who recently quit the Civil Aeronautics Board and urged regulatory policy-making by the executive branch, and administration by a court.

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Tax hearings—with possible far-reaching effects—are under way in Congress. Watch for depletion testimony Dec. 1 and a discussion of taxation on overseas investments Dec. 16.

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A house small business subcommittee will start hearings on marketing of tires, batteries, and accessories next month. Rep. James Roosevelt (D., Calif.) will start his new investigation of petroleum marketing on Dec. 9, first delving into purchase and sale of TBA items by gasoline wholesalers and retail dealers.

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Changes in oil import regulations are being delayed. The White House now is not expected to move until late this month or early December on amendments to the mandatory imports program. Main changes are expected to be consideration of Canadian imports as part of domestic supply when calculating West Coast supply, and of residual fuel oil allocations for "newcomers."

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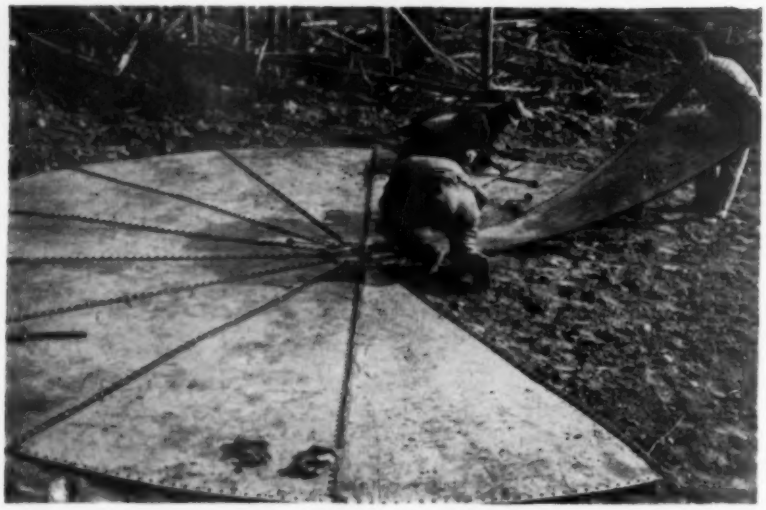

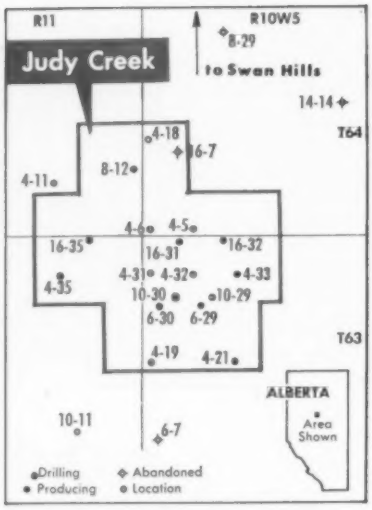

ALBERTA'S HOTTEST NEW FIELD is growing so fast work crews, shown assembling a water tank, are hard-pressed to keep up as . . .

Judy Creek Looks Like a Major Field

Judy Creek field—Alberta's newest "fair lady"—shows every sign of being a major field only seven months after its discovery.

Though official figures on proved reserves for the Imperial Oil Ltd. field haven't been released yet, it's believed that reserves proved on the basis of drilling so far make up a substantial portion of the volume required (100-million bbl.) for official designation as a major oil field in Alberta.

Oil in place in just 4,000 acres in the field has been estimated at 100-million bbl., of which about 20% is believed recoverable.

The field as officially outlined now comprises about 13,600 acres. And one well outside the field outline already has been put on production.

Imperial has made no predictions yet concerning ultimate field size. Officials say that, "until we get a few more dry holes, it'll be tough to answer as to what the ultimate size might be." One spokesman says that, while the field has not yet been definitely limited in any direction, three dry holes have been drilled on the northwest (map).

Another indication of Judy Creek's promise comes from a Calgary-based supply company; it says the field should keep it busy for the next four to five years.

Prime significance of Judy Creek field at this time, however, lies not so much in reserves as in the promise of continued growth—both in the field itself and surrounding areas.

The main play for the immediate or near future is expected to embrace some 1,500 sq. mi., with emphasis on the Beaverhill Lake pay.

This play will be concentrated in the areas running south from Judy Creek to the general Whitecourt area, north to Swan Hills, and west to Kaybob.

Northernmost well in Judy Creek field today is 7 mi. from nearest production at Swan Hills.

It appears now, however, that Judy Creek does not link up with other fields in the area.

It had previously been established that Virginia Hills field was separate from Swan Hills. It now appears, on the basis of oil-water contact and pressures, that Sarah Lake and Judy Creek are separate fields, too.

One source, however, says that "for all practical purposes," including pipeline connections, and the like, these fields are so close they "might as well" be considered one field.

One Imperial spokesman notes that it took a long time for a link to be found between the Leduc and Woodbend fields in Alberta.

Production at Judy Creek, as in other nearby fields, is from the Swan Hills member of the Beaverhill Lake formation. Crude is 42-gravity.

The producing zone is found at roughly 8,500 ft. or deeper. The field discovery was perforated at 8,492-501 ft. and 8,508-12 ft. Flow rates were 27 bbl. per hour through 16/64-in. choke, and 110 bbl. per hour through ¾-in. choke. Imperial has not disclosed net pay. A spokesman says, however, that "by some estimates it's fantastic—and by others not so good."

Up to now, the Judy Creek play has been a one-company show, with Imperial Oil Ltd. bringing in all the producers.

Activity has been centered in an area of about 75 sq. mi. Results of a mid-October sale of leases in areas south of Swan Hills showed that other companies will become participants in the over-all play.

Here's an indication of the speed of development undertaken so far by Imperial: Its No. 16-31, 1sd16-31-63-10w5, a Beaverhill Lake discovery, was put on production May 8, this year. On Aug. 24, the Alberta Oil & Gas Conservation Board issued an order designating Judy Creek a field, effective Sept. 1. As of that date, the new field had a total of six producers. By late October, three more wells were reported as producers.

Imperial is drilling three tests and has staked location for six more, five of them in the field proper.

Imperial plans to keep six rigs going in developing areas already productive. Considering that it takes about four months to complete a Judy Creek well, a rough estimate is that a maximum of 18 holes can be drilled per year.

Land holdings were a primary rea-

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1. 5-in. thick plate for reactor is fabricated at CB&I's Birmingham, Alabama plant.

2. Workman smooths seams on an assembled section.

3. X-ray machine for checking seam welds. Machines operating at 1,000,000 and 2,000,000 volts are used to completely inspect steel vessels as much as 10 inches thick.

4. 72-ton top section for reactor-regenerator is lowered into position under supervision of CB&I erection specialist.

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son behind Imperial's speed in Judy Creek development.

Imperial first acquired Judy Creek acreage in 1953. Says a spokesman: "We were on drilling reservations and we had to go to lease." He says that development and other work was hurried in order to obtain information and select leases.

Imperial paid nearly $4-million for seven half-section parcels in the Oct. 15 Crown Reserve sale.

On the basis of its quick development, Imperial in September requested that the maximum productive rate for Judy Creek be set at 130 b/d per well for the period Nov. 1, 1959 to April 30, 1960.

The request was made on the basis of the discovery and five offsets completed by that time. Factors used for determining this MPR, says Imperial, include: average net thickness, 67 ft.; average net porosity, 8.8%; connate water, 20%; acreage factor, 4.0; recovery lift factor, 0.55.

As the field was still in an early stage of development, Imperial says the average thickness used was for the area considered proved by the six wells.

Imperial believes the field has a solution gas cap drive. Wells are on 160-acre spacing.

A per-well MPR of 120 b/d actually was set for the field.

This reduction was due to a difference of opinion between the provincial board and Imperial as to life of the field. Imperial reportedly used a life term shorter than 20 years. The Board's figure was higher—with the result that a compromise figure—20 years—was worked out.

In keeping with market demand in October, allowable for that month was 75 b/d per well. Due to a drop in market demand for November, the allowable for this month is 70 b/d per well.

The MPR set for Judy Creek will be reviewed in March. If reservoir characteristics by then are superior to those reported previously, the field stands to wind up with a higher MPR figure, beginning May 1.

Judy Creek production has been moving to market via temporary lines laid by Federated Pipe Lines, Ltd., wholly owned subsidiary of Home Oil Co., Ltd., and Texaco Canada, Ltd.

Federated is laying permanent lines under a program costing about $2.5-million so far. Under this program, Federated is completing a 10-in. line from its operating terminal at Swan Hills to serve Sarah Lake production, a distance of about 15 mi. From that point, two 8-in. laterals will be built, one going west a distance of 14 mi. to Virginia Hills field, and the other 8½ mi. south to service Judy Creek.

Besides these main laterals, some 10 mi. of 4½-in. pipe have been laid to service individual batteries in these areas.

Crude from this system is delivered to Edmonton, where most of it enters the system of Interprovincial Pipe Line Co.

Imperial has not let the usual seasonal interruption slow its Judy Creek program.

Drilling operations in this region, as in other mud and muskeg sections of Alberta, usually are postponed until freeze-up once the spring thaws make transportation too difficult. Troublesome ground conditions at Judy Creek are caused mainly by mud, rather than muskeg, an Imperial spokesman says. The muskeg occurs "just in small pockets. Miles and miles can be travelled without hitting any, so it's not as bad as Swan Hills."

The Judy Creek discovery was made as spring break-up neared. In order to drill follow-ups without waiting until fall, Imperial "raced" five drilling rigs across the softening ground. This enabled the company to work through the summer, "because we had the rigs in."

Imperial now is planning winter stockpiling operations to be able to carry on drilling through next summer.

An official says; "You just muddle your way in and out and pray for the best—but you're all right if you stockpile."

He adds that operational problems are not so bad at Judy Creek as in true northern operations. The area, though rugged bush country, is relatively accessible, though roads within the field area are described as "terrible."

A wildcat in the area costs about $200,000.

A Judy Creek development well costs about $150,000, because conditions are a bit easier. But both figures compare favorably with wells drilled in far northern or foothills regions.

New Seismic Tool Field-Tested

Western Geophysical Co. is field-testing a new tool that shows promise in helping to outline stratigraphic traps.

The tool is the Summarizer, an invention of Eduardo Merlini, electrical engineer with AGIP Mineraria, oil exploration subsidiary of the Italian government's ENI Group.

The Summarizer is relatively small —about the size of three office desk drawers—and is field mobile.

It is being used in conjunction with a regular set of seismic instruments to produce a record having the general appearance of seismic log.

The Summarizer takes the conventional signal for each seismometer group and converts it to a function of energy. The signals then are summed and integrated with respect to time.

In detail, the tool accepts the conventional broad-band signal for each seismometer group, controls its amplitude by means of a controllable fixed-rate expander, and converts the signal to a function of energy.

Basically, the Summarizer produces an output which is a function of the total energy received by a seismometer spread. The tool's record is normally produced simultaneously with a conventional reflection record.

The tool is said to produce an output with an unusual amount of "character" because it obtains noise suppression by summation and integration rather than by sharp filtering.

Present experimentation with the Summarizer is aimed at developing field techniques for its use, and experience patterns for its interpretation.

Here's what happened in a California experiment involving a line connecting two dry holes:

The objective zone at one hole was a well-developed sand of considerable porosity.

At the other hole, the objective zone was silted up almost completely.

The Summarizer section showed a zone of high energy present at the proper time in the high-porosity hole, with the energy band fading out between the two holes.

The objective sand in this test was at about 10,000 ft.

An experiment in western Canada involved a line through a stratigraphic oil field, with two producers and one dry hole on the line.

Relatively high energy characterized the Summarizer traces at the level of the producing sand within the field, with the energy disappearing near the dry hole.

No apparent correlation was found between the behavior of the Summarizer traces at the target level and that of filtered reflections.

In the Paradox Basin . . .

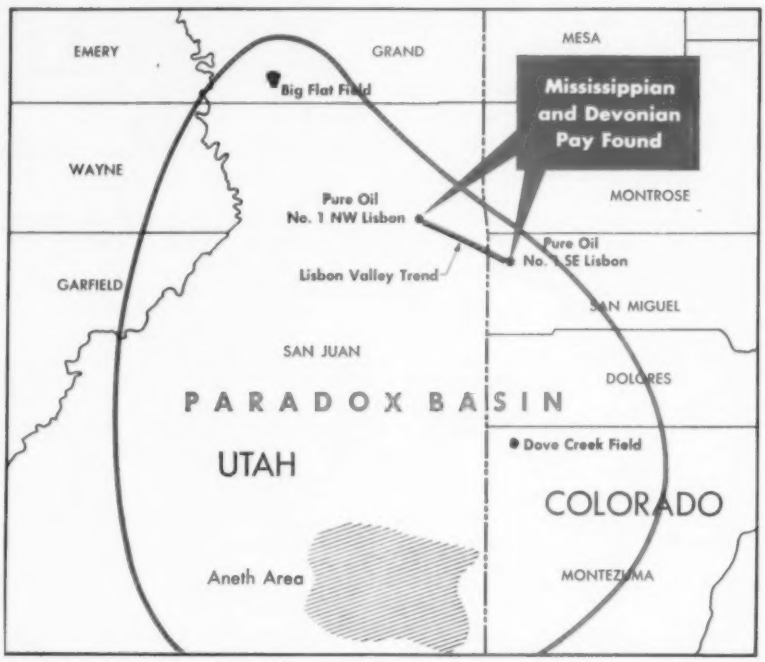
All Eyes Are on Lisbon Valley Trend

Exploration attention in the Paradox Basin is centered on an area where two Pure Oil Co. wildcats—one in Utah and one in Colorado—have found gas in the Mississippian and Devonian formations.

The two wildcats are No. 1 Northwest Lisbon, section 10-30s-24e, San Juan County, Utah, and No. 1 Southeast Lisbon, section 5-44n-19w, San Miguel County, Colo.

Nearest Mississippian production to the Utah wildcat is 36 mi. northwest, in Big Flat field, where the formation yields oil. The only other Mississippian production in the area is about 100 mi. south, at Pure's No. 1 Toh-Ah-Tin, in Arizona.

Closest Devonian production is about 500 mi. southeast, in Lea County, N. M. To the north, the nearest is about 1,100 mi. away, on the Nesson Anticline in North Dakota.



The strongest hope is held for the Utah wildcat where six drillstem tests indicated 453 ft. of pay with an estimated production of about 45-million cf/d.

The first five tests were in the Mississippian, which was topped at 7,543 ft. The sixth, at 7,996-8,126 ft., was presumably in the Devonian. Here are the test results:

- First test, at 7,543-643 ft., flowed at the rate of 3,310,000 cf/d through ¾-in. choke after 5 minutes and then increased to between 4-million and 5-million cf/d.
- Second test, at 7,643-701 ft., for 45 minutes, flowed at the rate of 17.3-million cf/d.
- Third test, at 7,701-74 ft., for 30 minutes, flowed at the rate of 11-million cf/d through ¾-in. choke.
- Fourth test, at 7,774-829 ft., for 1 hour, flowed at the rate of 1.6-million cf/d through ¾-in. choke.
- Fifth test, at 7,829-925 ft., flowed an estimated 8-million cf/d and recovered 20 ft. of condensate.
- Sixth test, at 7,996-8,126 ft., flowed at a rate of 300,000 cf/d.

Drillstem tests at Pure's Colorado wildcat aren't as promising as those in the Utah venture, says a company official, but they still are encouraging.

Lime, possibly Mississippian, was found at 8,820 ft. On 30-minute drillstem test at 8,861-964 ft., gas flowed at an estimated rate of 250,000 cf/d.

A deeper test, at 9,230-330 ft., possibly in the Devonian, recovered 1,500 ft. of water cushion; 1,023 ft. of gas-cut mud; and 1,395 ft. of gas-cut water.

Both wildcats, at last report, were being deepened to target depths.

Pure, this week, was coring below 9,000 ft. in the Devonian at No. 1 Northwest Lisbon.

Core from 8,027-85 ft. had good odor on breaks and some random fractures. A core from 8,126-83 ft. showed dolomite and green shale, and 21 ft. were stained.

The company probably will drill No. 1 Southeast Lisbon to basement. Pure last week was coring in the Cambrian at 9,526 ft.

The Cambrian was encountered relatively high in the Southeast Lisbon. This makes it appear, says Pure, that the test is structurally high, "though it's too early (no logs had been run at last report) to say anything definite yet."

The two wildcats have triggered major seismic activity in the north portion of the Paradox Basin.

A Petroleum Week spot check reveals that considerable changes are being made in exploration budgets for 1960 and 1961 to include stepped-up activity in this area.

It's likely that the two wildcats will provoke more Mississippian drilling in the northeast part of the basin, and that operators will intensify drilling beyond the Pennsylvanian in other parts of the basin.

"There's more seismic work under way now in the basin than in the last three years," says a Pure official at Durango, Colo.

While the center of interest is around the Lisbon trend, the whole general area north of Aneth to Green River is feeling the effect of the two wildcats.

Pure itself has some 80,000 net acres under lease or option over a 35-mi. distance in the trend area.

The acreage not leased yet is commanding up to $100 per acre with the maximum 5% overriding royalty permitted on federal leases.

Extensive seismic work preceded both of Pure's tests.

A Pure geologist says there is only an indirect relationship between the so-called Lisbon Anticline or Fault on the surface and the apparent structural features at Mississippian depth.

Earlier tests, says a Pure official, "were in the wrong place—south of the structure, not on the crest."

Pure's Utah wildcat is just 3 mi. east of a gas pipeline running from New Mexico to Seattle, Wash.

The line is operated by Pacific Northwest Pipe Line Corp. Gas from Northwest Lisbon shows a content of 849 Btu, with some helium.

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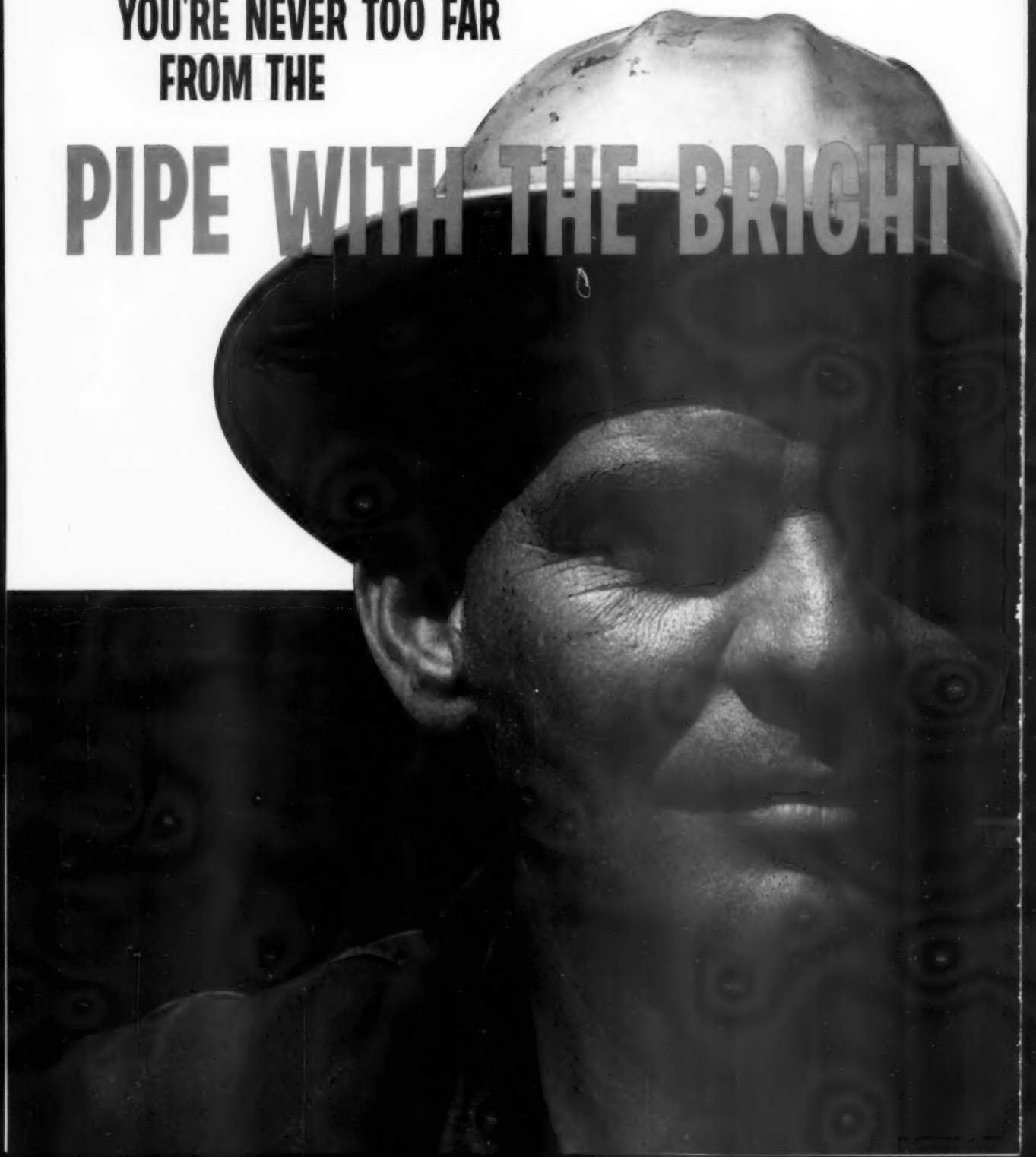

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CITIES SERVICE

'Packaged Unitization' Makes Its Bow

- **Under this new turnkey service, a contract operator takes over formation and management of unitized properties, with emphasis on secondary recovery.**
- **The development is particularly attractive to independents and small companies.**

"Packaged unitization" is now available to oil men, as the latest in an increasingly impressive array of turnkey services.

The term, new to the vocabularies of most oil men, is used to denote a carefully oriented plan for organizing and managing unitized secondary recovery projects.

Packaged unitization involves turning over to a third party such necessary jobs as reservoir analysis, equipment valuation, royalty owner contact, legal testimony, field supervision, and budgetary control.

The third party—usually a consulting engineering firm specializing in property management—is empowered to act on behalf of the unit owners in all matters pertinent to operation and management of the unit.

As such, the concern replaces the many cumbersome committees which usually characterize unit operation.

Proponents claim several advantages for the new-type program:

- Secondary recovery is the primary business of these management firms. Their experience includes many similar operations; no matter what problems are encountered, the management firms have probably met them before.
- The packaged deal is more economical. Overhead costs, such as maintenance of district offices and other expenses often charged against a unit, are reduced or eliminated.
- Packaged unitization can be accomplished more rapidly. Once the management firm has been assigned, the project becomes its number one objective until organization and development work is completed.
- Working-interest owners can more easily ascertain in advance what their prorated share of the expenses will be. Management charges are at a specified rate, fixed by contract. Once the fee is set, it does not vary for the duration of the contract.
- The management company often has a more complete knowledge of the pool than most of the indivdual operators because of comprehensive reservoir studies made before unitization.
- Conflicting interests, such as exploration and land acquisition, are limited.
- Contracts are on a yearly basis. If owners are dissatisfied with the operation of the unit, they can break off with the operator when the initial contract period expires.

Packaged unitization apparently has gained its greatest acceptance in Oklahoma, a state with numerous reservoirs suitable for waterflooding, and with laws favoring unitization. Arkansas, Nevada, and Washington are the only other states having complete compulsory unitization laws.

Three packaged deals have been worked up in recent months in Oklahoma by W. E. Stiles Engineering, Inc., a Tulsa concern specializing in management and operation of oil and gas properties. One of the projects has been in operation for several months; another is in the final stages of development; engineering studies are just beginning on the third.

The Sonora Sand Unit of the East Seminole field, Seminole County, Okla., is one of the first packaged unitization deals ever attempted.

The two largest operators in the field had determined the time was ripe for a waterflood feasibility study and assigned the job to Stiles.

While the study was being concluded, the two operators contacted other working interests in the field and solicited interest from all to accept a prorated share of the study cost.

When the report was completed, copies were sent to all operators and a meeting was called to discuss findings. Stiles engineers explained the necessity of unitized operations, since a peripheral flood was indicated.

A committee of operators (not an operating committee) was formed and agreement reached to direct Stiles to go ahead with preliminary unitization work, including contact with royalty owners and filing of unitization application with the Oklahoma Corporation Commission.

Some two months later, after all preliminary unitization details had been handled by Stiles, a second meeting was called at which time an operating committee was formed. The majority working interest-holder was elected unit operator and the effective date of unitization set.

At the same meeting, Stiles submitted a proposal to become the contract unit operator and was so appointed by the committee.

All details of unitization and subsequent management of waterflood property were then handled by Stiles.

Unitization proceedings began on Jan. 7, 1959, and the state order was issued Apr. 16, after all working interests and 75% of the royalty owners had signed the unitization agreement.

Initial water injection was begun on June 2, only 30-odd hours after the unit came into legal existence. Full-scale injection was accomplished within 30 days.

The Sonora Sand Unit has 41 working interests, 121 royalty owners, and 19 overriding royalty owners. There are at present a total of 22 producing wells, six injection wells, and one water-supply well. Oil production is from the Sonora sand, topped at about 2,600 ft., and water supply is from a series of unconsolidated sands between 1,800-2,400 ft.

Flooding is being done on a peripheral pattern, with injection on the downdip or water-contact side of an entrapment formed by permeability pinchout and closure against the upthrown side of a fault.

The pool, discovered in 1950, had cumulative production of 250,000 bbl. prior to flooding, with another 125,000 bbl. of primary reserves remaining. According to testimony before the Oklahoma Corporation Commission, Stiles Engineering estimated that an additional 550,000 bbl. of oil will be recovered through waterflooding.

Depletion date is estimated for 1966 with flooding, whereas the reservoir would have been exhausted in early 1963 had normal competitive operations been continued.

The First Wilcost Sand Unit of Southwest Hunter field, Garfield County, was contracted to Stiles Engineering for waterflood development about two months ago.

The unit became effective Sept. 1, and development work is now in its initial stages.

A third project, contracted to Stiles just last month, is now being evaluated for a waterflood.

So far, packaged unitization has been attractive primarily to independents and smaller companies without

unitization specialists. The trend is likely to continue.

A very recent case in Saskatchewan, however, illustrates the manner in which majors may also be influenced to call upon management concerns.

In this instance, minority working interest owners were disinclined to allow a majority working interest owner to act as unit operator. The deal went through only after agreement was reached to assign unit operation to a management firm.

Although the Saskatchewan deal cannot be construed as a true example of packaged unitization, it is not unlikely that similar cases will arise in which preliminary details also are handled under contract.

A unitization expert for one major company says packaged unitization will never supplant company-operated units. But he concedes that the turnkey idea has few tangible disadvantages.

"There would be a natural reluctance on the part of our company to relinquish its operations to a third party," he says, "and I imagine most of the larger outfits will feel the same way.

"Still, the final criterion is the ability to recover the largest amount of oil for the least amount of money. If contractors can prove their ability to do this over an extended period of time, they'll undoubtedly come in for a fair share of unitized secondary recovery management."

What's New / IN EXPLORATION, DRILLING, PRODUCTION

Canadian Wildcat Supplied by Airlift

Imperial Oil Ltd. has set a Canadian oil industry record for bush-flying airlift service to a drilling site by logging 573 safe round trips, hauling 870 passengers and 1,478,000 lb. of freight in eight months.

The airlift serviced the company's Brazeau wildcat, 110 mi. southwest of Edmonton, Alberta, where unexpected difficulties depleted initial supplies. Overland hauling in the muskeg area became impossible during the summer thaw. The well was completed as a gas producer.

Most of the 618 air hours were recorded in trips from the closest trucking point, 37 mi. away at the Drayton Valley airstrip. Other trips were made to Edmonton and the railway town of Edson, 56 mi. northwest.

Lost circulation problems made drilling mud the most vital item; some 1.1-million lb. were flown in, plus 40,000 lb. of chemicals to make the mud heavier.

Diesel fuel and additional equipment also were airlifted, as were 22 tons of food and movie films.

An Otter was used most of the time, but two additional aircraft and a helicopter also saw service.

•

Bel Oil Corp. and others have won their fight to knock out Louisiana's gas-gathering tax.

The Louisiana Supreme Court last week upheld a lower court ruling (PW—Jun.12'59,p10) that held the tax unconstitutional. The high court said that Bel Oil had the right under its leases not only to explore for and produce gas, but also to market the gas, since otherwise "the right to explore for and produce would be valueless."

The court agreed with Bel Oil's contention that the tax law violated the state constitution's prohibition against the levying of an additional tax not authorized upon oil, gas, or sulfur "leases or rights."

The tax, which provided up to $40-million annually in state revenue, was suspended at a special session of the state legislature in 1958 because of the threatened litigation.

Revenue collector Robert Rolland says his department will apply for a rehearing of the case.

•

Producing Properties, Inc., has added 1,710,000 bbl. of oil to its net reserves through acquisitions costing $1,460,000.

PPI paid $1.2-million for full working interest in 8 wells in the Reeves San Andres Lime field, Yoakum County, West Texas. It also acquired part interests in 56 wells in East Texas field and in 5 wells in Santa Barbara County, Calif.

•

Independent operators in western Canada say the credit squeeze is seriously curbing their ability to acquire oil and gas leases.

Two operators, representing 3.5-million acres in Alberta, recently met with Canadian Deputy Finance Minister K. W. Taylor with the specific request that the government persuade private chartered banks in Canada to loosen their loan rules.

The operators, Archibald P. Newell and Robert C. Brown, said that companies bidding on Alberta sales of Crown Reserves have to cover their bids with certified checks. But during recent weeks, the banks have been demanding cash to back the checks, forcing the small companies to convert bonds or treasury bills (short-term bonds maturing in three months).

Since the Alberta sales are held every three months, they said, the smaller companies are forced to remain in a constant liquid position.

Newell and Brown seek from the government a "bookkeeping convenience," which would establish a form of short-term credit.

•

Alaska's first sale of state-owned tideland oil and gas leases will be held Dec. 10. Some 87,981 acres in 32 tracts will be offered.

No minimum bids have been set, but the state has the usual privilege of rejecting any and all bids. Leases will be for five years, with a rental fee of $1 per acre per year.

There are 11 tracts off the west shore of the Kenai Peninsula, between Kenai and Deep Creek; 2 in upper Kachemak Bay; and 19 in the wide bay area off the east shore of the Alaska Peninsula south of Bacharof Lake.

The tracts, which were nominated by the oil industry, vary in size from 640 to 3,660 acres.

All but a few of the tracts can be directionally drilled from onshore sites, according to Roscoe E. Bell, Director of State Division of Lands.

Future sales, he says, may include acreage further from shore.

•

Tidewater Oil Co. says the use of bottomhole heaters in 162 of its wells

in California's San Joaquin Valley has boosted production by 95% during the past 12 months.

The company started the heater installation program in October, 1958 in wells producing heavy crude in Kern River, Midway, and McKittrick fields.

Before heaters were installed the 162 wells pumped 1,945 b/d net and 3,362 b/d gross. After the heaters were installed, the wells pumped 3,788 b/d net and 6,185 b/d gross.

Tidewater's most popular heater set-up has been a four-well installation, including a heater to supply 1.2-million Btu per hour, a header system, and two ¾-in. lines to carry hot water to and from the heat exchanger in each well.

The company had 68 wells equipped with the heaters before the 162-well program began, and installed an additional 107 heaters in new wells completed during 1959.

•

The new rules governing Canada's Arctic lands can be expected soon, now that the government has agreed to a five-year waiting period for the release of seismic data.

The government had suggested a two-year waiting period, but this met with stiff opposition from various segments in the oil industry, which insisted such a short time would destroy incentive.

The government now will be able to issue permits on the 90-million acres already applied for.

Alvin Hamilton, Northern Affairs Minister, says the proposed two-year release period was part of a government low-cost oil program, which still includes low-cost land acquisition, the avoidance of excess producing capacity, and wide spacing, through compulsory field unitization and larger lease blocks.

•

Land sales in Alberta and the Northwest Territories have netted $2,942,804.

Alberta received $1,703,291 for drilling reservations on 14 parcels, covering 113,407 acres.

A total of $1,239,513 was obtained by the Northwest Territories for 11 permit blocks covering 686,796 acres. Top bid was by Imperial Oil Ltd., which paid $301,011 for parcel 11-59, covering 61,440 acres.

•

Proceedings of the Sixth Midwestern Conference on Fluid Mechanics and the Fourth Midwestern Conference on Solid Mechanics are now available in book form.

The meetings were held at the University of Texas on Sept. 9-11. The books, which cost $12.50 each, are available from the University's Engineering Institutes, at Austin.

MGM Movie Lot Oil Discovery Hinted

A "tight-hole" wildcat appears to hold the key to the next movie lot oil discovery in metropolitan Los Angeles, Calif.

The wildcat, which has sparked persistent rumors that it is a significant discovery, is Continental Oil Co. No. 1 MGM, on the 184-acre MGM property in Culver City.

At last report, the hole was being drilled below 10,854 ft. Seven-inch casing was set at 9,636 ft.

It is believed that the wildcat found production in the Sentous sand, which is productive in Inglewood field, 1 mi. southeast.

Continental says the test is on a separate structure from wells in Inglewood field.

The wildcat is the latest in a series of urban tests started by various operators in the Los Angeles area.

William L. McCoy, assistant administrative officer in charge of Los Angeles petroleum administration, says that of the 16 active urban drilling districts, 8 are being actively developed and produced, 3 are yet to be drilled, and 5 have been abandoned.

The only districts that could be classed as successful ventures, McCoy says, are those of Universal Consolidated Oil Co. on the 20th Century Fox Studio property and Signal Oil & Gas Co.-Richfield Oil Corp. at Rancho Park and Hillcrest County Club, in West Los Angeles.

Universal is reported to be producing about 2,300 b/d from 27 wells on two sites. Signal and Richfield are awaiting installation of a pipe-line to take oil from their property, where seven producers are shutin and one test is being drilled.

Drilling Highlights

New Mexico—Pure Oil Co. No. 1-D Federal, section 31-9s-36e, Lea County, flowed oil at the rate of 88 bbl. per hour through ¼-in. choke on drillstem test of the Devonian at 11,978-12,011 ft. The discovery, on an 880-acre unit held jointly by Pure and Monterey Oil Co., is 3 mi. southwest of Crossroads field.

Kansas—Pan American Petroleum Corp. No. 1-C Kinsler, section 33-31s-40w, Morton County, was dually completed for 4.1-million cf/d of gas from the Des Moines (Pennsylvanian), topped at 4,250 ft., and for 15.5-million cf/d of gas through perforations at 5,464-66 ft. in the St. Louis (Mississippian). The Hugoton field discovery is 3 mi. north of Mississippian production at Richfield pool.

Oklahoma—J. M. Huber Corp. No. 1 Boos, section 35-5n-11w, Caddo County, flowed 7.3-million cf/d of gas showing 60 bbl. of condensate per million, through 11/64-in. choke and perforations at 7,928-8,052 ft. in the Springer (Pennsylvanian). The wildcat is 2 mi. northeast of South Apache field.

Texas Panhandle—Pan American Petroleum Corp. No. 1 Kansas City Mineral Royalty Co., section 45, block 4, AB&M survey, Hansford County, flowed gas at the rate of 2.6-million cf/d from the Cleveland sand, topped at 6,515 ft., and gas at the rate of 10-million cf/d from the lower Morrow, a new pay for the area, topped at 8,416 ft. The well is immediately northwest of Pan Am's 50,000-acre Lips Ranch block, where the firm holds production and is carrying out development.

East Texas—Delta Drilling Co. and Claud B. Hamill No. 1 Willingham & Daniels, M. M. Long survey, Smith County, was completed for 278 b/d of oil through ¼-in. choke and perforations at 7,470-80 ft. in the Paluxy. The discovery is 1 mi. southwest of production in the old Tyler field, which produces from the James and Rodessa.

Texas Gulf Coast—Barney Fisher and Lloyd Davidson No. 1 Nora Schulze, section 20, G. H. Paul subdivision, Nueces County, flowed oil at the rate of 180 b/d, based on 3-hour flow through ⅜-in. choke and perforations at 7,651-57 ft. in the Frio. Operators plan to test sand sections at 7,700 ft. and 7,800 ft. The wildcat is 4 mi. northeast of Minnie Bock field.

New Epoxies—Partners or Competitors?

The high-flying epoxy resins are running into increasing competition from other resins with similar properties.

These include the Buton resins (PW—Nov.6'59,p90), which will soon be marketed by Enjay Co., the diphenolic acids developed by S. C. Johnson & Son, the cyano-acrylate adhesives of Eastman Chemical Products, Inc., and certain polyesters such as Atlac 382, made by Atlas Powder Co.

Also among the competitors are the "epoxides," chemicals which contain the characteristic "epoxy triangle" in their formulas (box, below), but which do not derive from the two basic ingredients of the original epoxies—bisphenol A and epichlorohydrin.

At least two companies are now making epoxides, the Borden Co., which calls them Novolac, and Union Carbide Chemicals Co., which just announced the opening of its 10-million-lb.-a-year plant at Institute, W. Va., for the production of several such epoxides.

The new epoxides according to Union Carbide Chemicals Co., have a wider range of viscosities, and make resins more color-stable and capable of withstanding higher temperatures without distortion, than the original epoxies now on the market.

Union Carbide's Epoxide 201, for instance, is a cycloparaffinic product, free from the color-unstable phenolic group present in the traditional bisphenol-based epoxies. Therefore, according to UC, it is better able to resist the effects of ultraviolet rays, heat, and oxidation.

With the proper hardeners, usually low-cost anhydrides, UC adds, Epoxide 201 can withstand a temperature of over 300F without heat distortion.

Another type, Epoxide 206, has a viscosity almost as low as water, and can be used as a diluent for other resins. It is a vinyl cyclohexene dioxide.

Still another, Epoxide 207, a crystalline dicyclopentadiene dioxide, can withstand temperatures in excess of 570F when formulated with the proper hardeners, such as maleic anhydride and trimethylolpropane. It also has a very high dielectric resistance.

Although another UCC affiliate Union Carbide Plastics Co., makes old-line epoxies, the company sees no contradiction.

"It is difficult to say that any plastic is entirely 'white' or entirely 'black' for any given application," says Dr. Eugene Barr, of UC Plastics. "Plastics for each specific case, rather, line up in various shades of 'greys.' To make his final decision, the user weighs many factual pros and cons; but many imponderables also enter into the picture."

In addition to competing with old line epoxies, says a spokesman for UC Chemicals, the epoxides will also create new markets, in areas where their special properties are valuable.

The development price of these epoxides is still relatively high, but UC advises that future market developments should enable large-volume production, with lower prices.

Many improvements are being made in the curing, or hardening, of the epoxy-type resins.

New curing agents have been developed, which require no heat, are not adversely affected by high humidity, do not present a fire hazard, and have a much longer usable life after they have been mixed with the epoxies.

A critical period in the use of epoxies is the time between the addition of the curing agents and the moment at which the cure has proceeded so far that the resin is no longer workable. That period is known as "pot life."

Considerable material can be wasted unless careful attention is given to pot life.

Shell Chemical Corp. has developed certain curing agents, which give coatings (with solvents) a pot life of several weeks instead of the usual few hours.

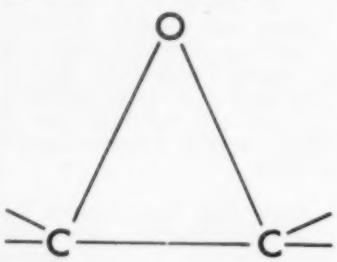
Shell also demonstrated recently, at the Paint Industries show in Atlantic City, the possibility of applying this new curing agent to 100% "solid" coatings—that is, coatings without any solvent. In this case, the pot life is about eight hours. Large batches can therefore be mixed and applied with ordinary spray guns, without danger of clogging the nozzle.

Epoxy coatings cured with these agents, which Shell calls Epon curing agents H1 and H2, can be applied

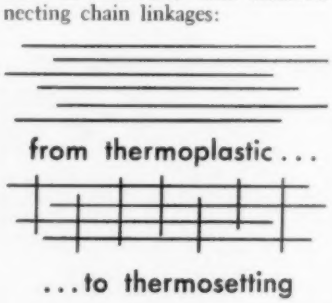
What Epoxies Are; How They're Made

Epoxy resins are plastic materials that become hard, infusible solids upon the addition of a hardening agent.

Basically they are made with a derivative of coal tar or petroleum, called Bisphenol A, and a propylene derivative, called epichlorohydrin. One distinguishing characteristic is that each molecule contains an "epoxy triangle":



When mixed with certain hardening agents, epoxy resins change from a thermoplastic to a thermosetting material, hard and tough. This change, or cure, is brought about by the formation of a network of molecules with interconnecting chain linkages:



The hardeners are also referred to as curing agents, catalysts, or converters.

Strictly speaking, epoxy resins do not find any practical applications as such. What is usually referred to as an epoxy is a formulation of ingredients. They include the basic epoxy resin (which is responsible for the qualities of the end product), its curing agents, and often such additives as diluents, fillers, reinforcers, resinous modifiers, or flexibilizers.

Introducing—

D-500 Fire Hose

—for a surer kind of protection under fire

Here's hose with all the dependable durability a 500-lb. factory test assures-plus lighter-weight construction that makes for easy handling. It's highly flexible and *stays* that way. And it's mildewproof.

Petro-chemical users will cash in on its unsurpassed oil- and chemical-resistance – inside and out. In fact, that's important to any user of the newest fire-fighting chemicals. And D-500 Fire Hose is available with white, black, yellow or red cover for ready visibility as well as for those who require color-coded fire-fighting lines.

What's more D-500 Fire Hose is guaranteed throughout its long life against defects in workmanship and materials. For the full story of this newest advance in fire-fighting equipment, contact the G.T.M. through your Goodyear Distributor—or by writing Goodyear, Industrial Products Division, Akron 16, Ohio.

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Photograph courtesy of American LaFrance Corporation

D-500
GOODYEAR INDUSTRIAL PRODUCTS
GTM -Specified D-500 Fire Hose
A Smooth, nonporous, long-aging, synthetic age- and oil-resistant tube
B Circular woven reinforcing jacket of high strength synthetic fiber
C Oil-, grease-, chemical- and age-resistant cover
C
B
A

INDUSTRIAL FIRE HOSE BY

GOODYEAR

THE GREATEST NAME IN RUBBER

along vertical surfaces in single coats up to 10 mils in thickness, without danger of sagging or flowing down. This makes them economically useful, as single-operation coatings, for storage-tank linings, for marine ballast and cargo tanks, and for general plant maintenance.

All sorts of materials, such as asphalt, metal powders, and glass fiber, have been mixed with epoxies for specific applications. The products thus formed benefit from the tough qualities of the epoxies.

Smooth-On Manufacturing Co., for example, is using an epoxy resin with an aluminum powder filler, called Metalset, for general maintenance work. It reports that large storage tanks at the Moose Jaw (Sask.) refinery of British American Oil Co., Ltd., had active leaks of considerable size. These were economically repaired with Metalset, and stood up well under a severe Saskatchewan winter.

Shell has developed a combination of an epoxy resin layer covered with gritty material, called Guardkote, which can be spread in thin layers over strategic portions of roads, for its protective and antiskid properties.

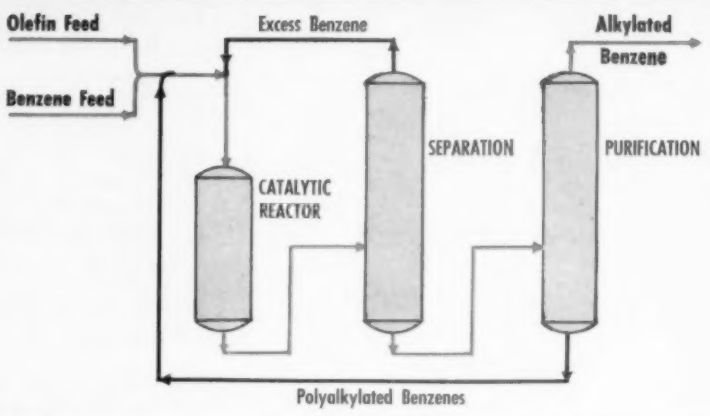
Epoxy resins, combined with phenolic resins or with synthetic rubbers, such as SBR, neoprene, or nitrile, make high-quality adhesives, which are used in aircraft construction and for many applications where nails and screws can be eliminated.

Epoxies today have an enormous field of applications. They can be used for:

- Coatings, to capitalize on their excellent resistance to chemicals, their great adhesiveness and flexibility.
- Plastic tooling, such as dies, where strength and dimensional stability are essential.
- Potting and encapsulation, to take advantage of their superior dielectric resistance.
- Adhesives, where the outstanding bonding properties of epoxies are put to use.
- Laminates and pipes, with glass fiber or metallic reinforcements.
- Paving materials, in combination with asphalts.

A market survey, recently prepared by the Graduate School of Business Administration of Harvard University, predicts that the sale of epoxies will exceed 90-million lb. in 1963. It hastens to add: "The productive capacity of the epoxy industry is now about three times as high as the industry sales, and the prediction we are making, of sales reaching that capacity by 1963, is more optimistic than most."

How Alkylated Benzene Is Prepared by the Alkar Process



UOP process makes . . .

Alkylated Aromatics for Chemicals

Great flexibility and purity of products are principal advantages claimed for Universal Oil Products Co.'s new catalytic technique for the preparation of alkylated aromatic hydrocarbons.

Although no commercial facilities using the Alkar process are in operation, two units are now under construction, one at a refinery abroad, the other in the U.S.

Alkylated aromatics are important petrochemical raw materials, and the coal tar industry, which manufactures similar products, does not suffice to cover the demand.

Ethylbenzene, for example, is used for the manufacture of polystyrene, and its present production is close to 1.5-billion lb. per year.

Ethylbenzene can be prepared via the Alkar route by using benzene and ethylene as starting point. The beauty of the process, says a UOP spokesman, is that the ethylene content of the feed gas may range all the way from 5% to 95%.

Benzene can be alkylated by UOP's Alkar technique with olefins ranging from ethylene, propylene, and butylene up to the higher-molecular-weight olefins.

The propylation of benzene can be accomplished in a manner similar to its ethylation. It yields mainly cumene—which is an isopropylbenzene—and its isomers. These products are becoming increasingly desirable in the phenolic plastics industry.

Mixtures of ethylene and propylene can also be used as feedstock.

If there is an appreciable quantity of butylene in the feedstock, it is best to remove it before alkylation, because the boiling points of diethylbenzene and butylbenzene are too close to one another to allow for satisfactory separation.

Diolefins can also be alkylated with benzene. For example acetylene and two molecules of benzene will give 1,1-diphenylethane.

Toluene and xylene can also be treated with olefins via the Alkar route, UOP says.

Polyalkylation of aromatics can also be accomplished.

The greatest demand today is for the monoalkylated benzenes. But polyalkylated benzenes, which may be in demand for certain chemical applications, can easily be prepared. For example mixtures of di-isopropylbenzenes can be made with a wide range of compositions.

Several advantages are claimed for the Alkar process, from a technical as well as an economic angle. Among them, UOP indicates:

- A gas stream with a very low concentration of olefins can be used. All of the olefins present will be extracted and combined.
- The yields of alkylated aromatics can be figured beforehand, quantitatively, from the chemical reaction formulas.
- The process is not corrosive, and its operating conditions (pressures and temperatures) are such that only a moderate capital investment is required.

An Alkar unit sufficient for the

production of 100,000 lb. ethylbenzene a day represents an investment of only $700,000, according to UOP.

The process is not complicated. The olefin feed gas and the aromatics are mixed and enter the fixed-bed reactor (diagram, page 38). From it emerges a mixture of alkylated aromatics, some excess benzene, and any inert parts from the feed gas. No olefins are left unconverted.

Operating costs of the Alkar process can be figured at slightly less than 1.1¢ per lb. of ethylbenzene produced, according to the UOP engineers, and the raw materials (ethylene and benzene) roughly 4.5¢ at today's prices. This brings the total manufacturing cost per pound of ethylbenzene to 5.6¢ (excluding the UOP royalty).

The Alkar process can also be applied to typical refinery streams, such as the aromatic-rich gasolines produced in the catalytic reforming of naphthas, to improve octane rating.

As an example, a Platformate can be treated by a dilute gas containing a low percentage of olefins. In a UOP pilot-plant operation, the feed had a clear octane value of 84.9. After the Alkar reaction, its octane value had gone up to 86.8, and could be raised to 97.2 with 3 cc. of tetraethyl lead.

What's New / IN PROCESSING

Ashland Oil & Refining Co. will build the first commercial hydrodealkylation plant to produce synthetic benzene and naphthalene from petroleum at its Buffalo (N.Y.) refinery.

The plant, to be completed next year, can produce up to 12-million gal. a year of benzene or 50-million lb. of naphthalene, or a combination of the two products.

At the same time, Ashland announced the acquisition of Louisville Refining Co. from the Farm Bureau Cooperative of Columbus, Ohio.

Through the deal, which involved an undisclosed amount of cash and Ashland stock, Ashland acquires a 6,000 b/d plant at Louisville, and a 250-mi. crude gathering system in western Kentucky.

•

The petrochemical industry is sinking a total of $150-million into the Delaware valley.

That's the dollar estimate on the number of petrochemical plants expected to be built in the Philadelphia area during the next five years.

Companies now building or planning to build include Gulf Oil Corp., Atlantic Refining Co., Avisun Corp., SunOlin Chemical Co., and Shell Chemical Co.

•

Construction plans for two carbon black plants—one in Italy, the other in Texas—were announced last week by Phillips Petroleum Co.

Phillips and Italy's ANIC SpA (part of the state-owned ENI group) will form a new company, Phillips Carbon Black Italiana SpA, to build and operate a 25-million-lb.-per-year plant.

And on the Texas Gulf Coast, design has been completed for 60-million-lb.-per-year plant, to be in operation by the third quarter of 1960.

Phillips is also building carbon black plants in France and South Africa.

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DEPT/Pipelines, Tankers, Storage

Seismic Analysis Aids in Ditching

- **Basic exploration technique can now be used by pipeliners to determine rippability of right-of-way rock.**
- **Lightweight equipment includes standard geophones, but hammer and steel plate serve as wave source.**

Seismic analysis, a vital tool in oil exploration, has found an application in pipelining: to determine the structure of substrata before ditching.

Before a pipeliner can move his ditching equipment onto a right of way, he has to answer these questions: Is there rock in his path? Can the rock be ripped? What equipment is needed to rip it, and how can that equipment best be used?

Several methods are now being used to answer these questions.

This new use of the seismic method was developed by Caterpillar Tractor Co., which claims it's cheaper and more accurate than other tests. Reason: It tells whether a substratum is consolidated—solid rock—or unconsolidated.

Consolidation is the key to rippability, says Caterpillar.

A material is consolidated when all its component particles are attached. Sandstone is consolidated; sand is unconsolidated.

Core drilling, Caterpillar says, tests only spots, and not the over-all condition of a substratum.

Experiments were also conducted with the electrical earth resistivity test, which measures resistance of materials by means of electrical voltage. The big disadvantage of this test, says Caterpillar, is that it takes a trained geologist to interpret the results.

The principles of seismic analysis are simple. When shock waves are sent down into the earth, they are refracted upward as they hit different substrata. The speed with which the waves return to the surface vary with the degree of consolidation.

Seismic waves travel faster through consolidated materials than they do through unconsolidated materials.

The same basic equipment is used as is used in oil exploration: a wave source, a receiver, an electronic counter, and a set of recorders.

In ditching, however, the equipment is on a smaller scale than the typical exploration equipment.

All the equipment, which weighs only about 40 lb., can be carried in a case the size of an overnight bag. This is similar in size to the portable exploration seismic equipment that has been introduced in recent years.

In seismic analysis of substrata along a pipeline path, it's necessary to take readings to a depth of only 50 ft. In oil exploration, readings are sometimes taken to a depth of thousands of feet.

Waves are produced by striking a steel plate, 6 x 6 x 1 in., with an 8-lb. sledge hammer.

In oil exploration, explosives are customarily used. But these might be dangerous where a pipeline is being built in a populated area.

A standard geophone is used as a receiver. A flat-base geophone is used if the surface is hard. If the surface consists of loose soil, a geophone with a cone-shaped base is used, because it can be pressed into the soil for better pickup of waves.

The electronic counter is used to measure the time interval between the hammer's blow and receipt of the waves by the geophone.

The different time intervals and distances between the wave source and geophone are then recorded on strip charts. With this data, two formulas are used to compute the consolidations of different substrata and their depths.

Caterpillar recently conducted tests of substrata for the looping of a section of Michigan Wisconsin Pipe Line Co.'s pipeline near Manhattan, Kan.

A two-man team checked three separate areas, where the possibility of rock was indicated by the terrain.

One member of the team produced seismic waves at various distances from a counter with the hammer and steel plate. The second took readings from a counter.

Each time the plate was struck, a switch automatically closed, starting the counter. The counter measured the milliseconds that elapsed until the waves reached a geophone. When the waves reached the geophone, the counter automatically shut off.

The entire test was completed in less than ten minutes.

Results indicated 3.5 ft. of topsoil on 7.2 ft. of weathered rock.

The rock was found to be rippable with a Caterpillar D9 Tractor, equipped with a 7-ft. Kelly Ripper.

SEISMIC WAVES, produced by hammer blow, (background), will travel underground to geophone. Counter will measure time intervals to determine types of substrata.

TRANSMITTER of the Tellurometer, a new radar surveying device, that is . . .

Another Pipelining Cost-Saver

Pipeline surveying, customarily a tedious, rod-and-chain operation, can now be done swiftly with a new electronic system, called a Tellurometer.

Ordinarily, pipeline routes are laid out by use of surveyors' transits—or sometimes by actually taping distances between established points on the ground.

Distances between points usually are kept short for accuracy's sake, making rod-and-chain surveys time-consuming.

The main advantage claimed for the Tellurometer is that it can measure distances up to 40 mi. in a single operation, thus cutting surveying time and crew size, while maintaining a high standard of accuracy.

The Tellurometer is a radar-like system, composed of a master and remote unit, which measures distances by means of microwaves.

The master unit is set up at one point and the remote unit is set up at a second point.

Microwaves are transmitted from the master unit to the remote unit. The time that it takes the waves to travel that distance—in billionths of a second—is recorded on an oscilloscope on the master.

To measure the distance between the two points, the time is simply converted into miles, feet, and tenths of feet.

The Tellurometer was used for the first time by Aerial Control, Inc., of Los Angeles in a recent survey of the route of a pipeline of Pacific Lighting Gas Supply Co.

The problem was to plot the centerline of a proposed route across Southern California desert country.

First, a basic control traverse was laid. It consisted of ten courses, which averaged 60,313 ft. in length. The traverse was then tied into U.S. Coast & Geodetic Survey monuments.

Next, a second traverse was run down the centerline of the route. This traverse consisted of seven sections, all of which were then adjusted to the basic traverse.

Accuracies above those specified were obtained, according to Pacific Lighting.

The average correction per course was only 1.16 ft.

The Tellurometer system operates as efficiently in fog, rain, or darkness as it does in clear weather.

Tellurometer was used recently to survey the course of a sewage line from Los Angeles into the Pacific Ocean.

At the outset of the survey, common transits were used to measure distances by triangulation.

Frequent fog, however, threatened to delay surveying operations.

A Tellurometer system was brought on the job. With it, surveys were successfully conducted in all kinds of weather, and a tight construction schedule was maintained.

What's New
IN PIPELINES

Midwestern Gas Transmission Co. will start building its Canada-to-Upper Midwest pipeline this spring, even though Federal Power Commission approval of rates probably won't be granted for two years.

The announcement came on the heels of recent FPC approval of the $52.2-million line and of MGT's plan to import 204-million cf/d from Trans-Canada Pipe Lines, Ltd. (PW—Nov.6'59,p26).

In authorizing the line and the imports, FPC said the rate question would have to await a determination of the cost of the new facilities and review of MGT's first year of operations.

An export license for Trans-Canada is also pending, and some Canadian observers feel that it could be granted sometime before Christmas.

•

Natural gas rate hikes totaling $23-million a year are being sought by four subsidiaries of Columbia Gas System, Inc.

The companies say that the increases are necessary because of higher gas costs.

•

Transcontinental Gas Pipe Line Corp. has asked Federal Power Commission authority to spend $51,687,000 for loops on its two existing mainlines and additional compressor horsepower.

Most of the loops will comprise the first sections of a third line from Texas to New York, which is being planned by Transco at a cost of $240-million (PW—Oct.23'59,p54).

The 280 mi. of loops will include 211 mi. of 36-in. line and 69 mi. of 30-in. line. They will be built in Texas, Louisiana, Mississippi, Alabama, Georgia, and South Carolina.

Additional compressor units at nine existing stations and three now under construction will boost horsepower by 32,040.

•

Natural gas rate increases totaling $16,434,795 by 14 pipeline companies have been suspended by the Federal Power Commission, pending hearings to be set later.

Among the companies are Tennessee Gas Transmission Co., which seeks a boost of $9,039,235, and Panhandle Eastern Pipe Line Co., which wants an increase of $2,717,525.

Work Starts to Tap New India Fields

Preliminary work is about to get under way in India on a $111.3-million, 720-mi. crude line that will open up the first substantial production established in the country to date.

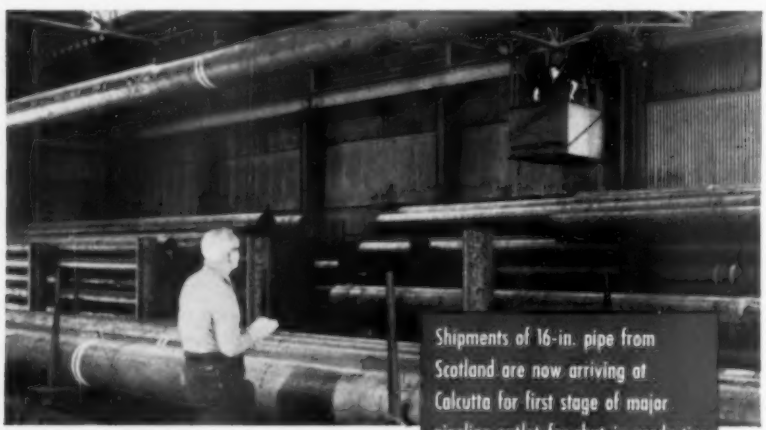
The pipeline, longest in India, will run through the northeast, from new oil areas in Upper Assam through West Bengal to Bihar. Preliminary surveys have already been made for the route, which will involve no less than 78 river crossings, according to a progress report issued last week.

The line will carry crude to two projected government refineries. The first (15,000 b/d) will be built within Assam at Noonmati, near Gauhati, with Rumanian aid; the second (40,000 b/d) at Barauni, in Bihar, with Soviet aid.

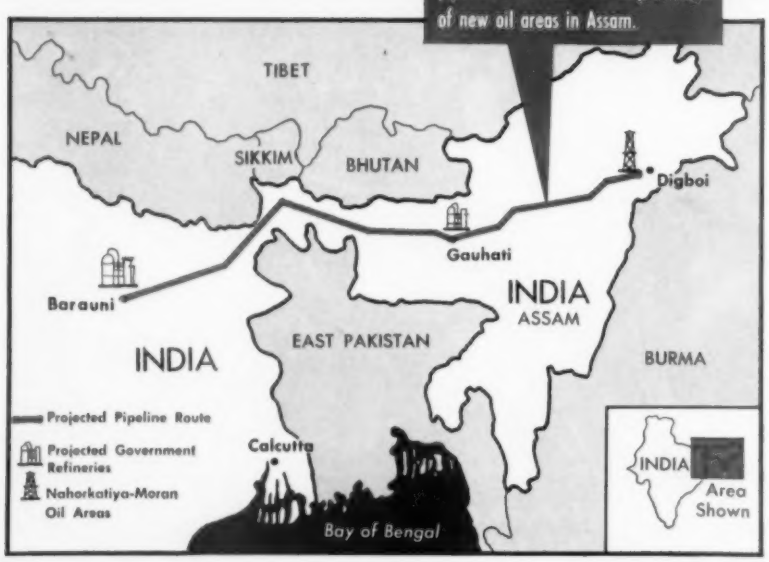
The still-growing potential of the new Assam oil fields to be tapped by the pipeline is estimated at a current 55,000 b/d by Oil India Private, Ltd., a joint-venture company which is developing the fields and will operate the pipeline. It is owned ⅔ by Burmah Oil Co., of London, and ⅓ by the Indian government.

This figure is already more than five times India's present oil output (all of it produced by Burmah Oil's Assam Oil Co. from oil fields in Assam). It is also equal to almost half of India's present oil demand of 120,000 b/d. Indian demand has been increasing at an average annual rate of 10½%.

Drilling and development operations are being continued. To date, the company said last week, 58 deep wells—most of them "good" oil producers—have been completed and shut in at Nahorkatiya, Hugrijan, and Moran.



Shipments of 16-in. pipe from Scotland are now arriving at Calcutta for first stage of major pipeline outlet for shut-in production of new oil areas in Assam.



Oil India says it is investing a total of $170.1-million in its venture, which includes taking over the new oil areas discovered since mid-1953 by Assam Oil, producing the crude, and building the pipeline to transport it to the two planned refineries.

Burmah Oil and the British government are putting up sterling credits totaling $64.3-million toward the $113.3-million that will go into the pipeline system.

The pipeline will be built for Oil India in two stages, corresponding with scheduled completion of the two government refineries it will feed.

The first stage will be a 16-in. line, all within Assam, running 260 mi. from Nahorkatiya to Noonmati. The first shipments of 16-in. pipe for this section started arriving at Calcutta from Scotland earlier this month. Deliveries will continue at a rate of 5,000 tons a month until next March.

The second stage will be a 14-in. line extending 460 mi. westward to Barauni. This section is to be completed by 1962. The 14-in. pipe is to be supplied by Hindustan Steel, Ltd., from a new German-built plant that is to go into operation at Rourkela next September.

When the entire project is completed, Oil India says, it will be delivering a "maximum" of 15,000 b/d of crude to the Noonmati refinery and 40,000 b/d to the Barauni plant.

Burmah Oil Co. (Pipelines), Ltd., the construction agent appointed by Oil India, now faces a race against time, weather, and problems of transporting pipe and materials upcountry from Calcutta.

In Assam, the terrain is mostly rice-paddy lands, which are flooded for long periods. Thus, pipe-laying will be possible only during the dry months from November to March.

Crossing of the Brahmaputra river will be a major problem in building the second stage of the line, due to fast-running waters and whirlpools. A final decision hasn't been made yet whether to bury the line in the river bed, string it along existing bridges, or carry it on cable suspensions.

Considerable preliminary work will be undertaken before actual pipe-laying can begin. In the meantime, the main construction contracts will be

awarded and orders placed for all the materials and equipment.

Automatically operated pumping stations will push the waxy Assam crude through the pipe at the rate of 2 mi. per hour. Though the oil and climatic conditions present unusual problems, exhaustive tests made in Assam and Britain over the past two years have proved that the crude can be pumped at any season of the year, Oil India says.

Double-Decker at Hassi Messaoud

PARIS—Hassi Messaoud, giant Sahara oil field, may have a second and completely different pay zone.

S. N. Repal, French government-controlled company, announced that a test on the southeastern edge of the field found oil in the Ordovician, for the first time on the Hassi Messaoud structure.

All previous wells have encountered oil in the geologically lower Cambrian.

The new well, MD-28, 8⅓ mi. southeast of the discovery, recovered 66 bbl. of crude on 1-hour test of an interval topped at 11,574 ft.

Even though the new pay zone is geologically higher, it was found about 800 ft. deeper than normal production.

Cambrian production in the previous wells was discovered at approximately 10,800 ft. The fact that the Ordovician in MD-28 was found so far below that indicates there is a sizable structural difference, possibly faulting.

The well, 47th success in 50 tries, is now being drilled to the Cambrian to see if the usual Hassi Messaoud pay is also present.

Oil Hunt Pushed in Central Iran

Iran's government oil company is pushing its exploratory effort in hopes that it may finally establish the first commercial production in central Iran. With only one minor exception, all of Iran's established production is in the south, along the coastal strip on which the Consortium operates.

The exception: very small fields in the west, on the Iraq border, which the Iranian government acquired from the former Anglo-Iranian Oil Co.

National Iranian Oil Co. is concentrating its own exploratory efforts within an area extending roughly 100 mi. north of Teheran to the Caspian Sea, and 100 mi. southeast to the Qum area.

The company has had two promising strikes in the general Qum region —one in 1956, the second last February. But their commercial prospects are still the unanswered puzzle.

National Iranian Oil Co. is drilling two of its four current tests near its recent 2,800 b/d Sarajeh find, which it hopes may prove to be a "very important" field.

The find was made in No. 2 Sarajeh, NIOC's second wildcat on a structure 30 mi. southeast of Alborz. Production was encountered at 8,043 ft., where NIOC said the initial tests showed an open-flow potential of 2,800 b/d of oil and 40.5-million cu. ft. of gas daily. The well was subsequently carried to 8,583 ft.

NIOC has given no indication yet of results so far in the two current tests on the structure .

The No. 3 was sidetracked after pipe stuck at 8,655 ft. It is now reported to have a fishing job at 8,490 ft. The No. 4 is currently below 9,168 ft.

At Alborz, 30 mi. northwest, NIOC is drilling another test in an effort to learn more about the structure where the spectacular No. 5 blew wild in 1956. The new wildcat, No. 8 Alborz, is now below 9,923 ft.

No. 5 Alborz flowed oil for a full three months at an estimated rate of 80,000-100,000 b/d before it was finally capped. But the tests drilled since then have failed to find production on the structure.

At Semnan, 100 mi. northeast of Alborz, NIOC has suspended drilling operations after carrying its No. 1 Sorkheh to 4,439 ft. last April.

Further geophysical work will be required, NIOC said, before drilling is resumed in this area.

The company is drilling in the Caspian Sea area, 100 mi. northeast of Semnan, where its No. 1 Gorgan is below 1,760 ft.

To increase exploration efforts in the northern areas, Iran earlier this year invited foreign oil companies to bid for oil rights in districts opened to the east and south of the Teheran-Alborz area. There has been no indication yet of any takers.

What's New
AROUND THE WORLD

It Can Happen—
Even in Libya

The costs of finding oil in Libya are known to be among the lowest in the world. Yet one recent wildcat cost nearly $3-million.

It's Shell's Bir Tlacsin discovery, which was completed for 700 b/d, 124 mi. southwest of Tripoli.

The Libyan Petroleum Commission attributes the stiff cost of the well to use of diamond bits for penetrating some "extremely hard" formations, and to its 13,187-ft. depth—deepest drilled in Libya to date.

•

IRAN—The Soviet Union has offered Iran an 85% profit-sharing deal for exploration rights in northern Iran, according to Teheran press reports. The bid is tied to one condition: No foreign military bases in Iran.

Observers here discount the move as a propaganda gesture. The Iranian government has repeatedly rejected Soviet bids for oil rights.

•

ARGENTINA — President Arturo Frondizi predicts rising Argentine oil output will have increased nearly 50% over 1958 by the end of the year. This is twice the rate of gain indicated by nine-month figures.

The year's output will reach an estimated 52-million bbl., compared with 35-million bbl. in 1958, the president said last week. In a nationwide broadcast outlining progress on the "battle of petroleum," he further predicted a jump to 82-million bbl. in 1960 and to 120-million bbl. in 1961.

•

MEXICO—The Russians will make a special sales pitch on their oil equipment at a tailored-for-Mexico version of their New York industrial and cultural exposition. It will be held in Mexico City Nov. 22-Dec. 15. The Soviet Embassy says it will include all kinds of oil equipment, some of it not shown in New York.

•

FRANCE—Jersey Standard has asked for a nonexclusive "hunting license" on a remote 137,000-sq. mi.

area in three French African territories. The acreage lies far inland, in the heart of the African bulge, and spreads over the southern Algerian Sahara, Niger, and Soudan (not to be confused with Nigeria and Sudan.)

•

ISRAEL—The "Israel/Miami Group" has been granted licenses of two companies that failed to start exploration. It will now undertake prospecting near Tel Aviv and Beersheba, Radio Israel announced.

The group is composed of several Israelis and Miami (Fla.) businessmen. It is a major shareholder in the Heletz oil field, and so far has invested $3-million in the 16-in. pipeline from the Gulf of Aqaba.

•

NETHERLANDS—Fish Engineering Corp., of Houston, has set up a Dutch subsidiary in Rotterdam. The new Fish International (Nederland) N.V. aims to design and build oil and gas processing plants and also to produce and trade in oil, gas, and chemical products.

•

AUSTRALIA—Texas American Oil Corp. has been granted oil rights on a 3.2-million-acre block in New South Wales, at the south end of the Great Artesian Basin. The Midland (Tex.) firm says it has also filed for several million more acres in Australia.

•

AUSTRALIA—Two California companies, latest to enter Australia, plan to drill a deep test next year in the Great Artesian Basin, under a new joint exploration venture on 60,000 sq. mi. in southwestern Queensland and northern New South Wales.

Union Oil Co. of California and Kern County Land Co. last week announced they will jointly conduct and finance exploration on a 50-50 basis. The acreage is held by Australian Oil & Gas Corp., of Sydney, which will get 20% of the profits from any production established.

•

ARGENTINA—An initial shipment of four complete Ideco rigs will be delivered to Southeastern Drilling Co. in early December at Puerto Deseado for its 1,000-well drilling contract.

Two skid-mounted Ideco H-525 drilling rigs and two H-25 Trailer Rambler service and workover rigs are included. A second shipment will follow in mid-December.

•

PAKISTAN—Plans for a $7-million carbon black plant to use Sui gas have been completed by Continental Oil, Burmah Oil, and the Pakistan government. The group will set up Sui Carbon Co., Ltd., to build a plant to use 70-million cu. ft. of gas daily to manufacture 36-million lb. of carbon black a year—enough for internal demand and export.

•

MEXICO — Petroleos Mexicanos last week announced that the government has granted it $112-million for strictly petrochemical projects.

One of the biggest in a long list of projects for Pemex will be an $8.2-million polyethylene plant for which Imperial Chemical Industries, of Great Britain, is expected to supply technical knowhow.

•

VENEZUELA—Sinclair, one of the two producers in Barinas, has given up 1/3 of its acreage there following discouraging wildcat results (PW—Oct.23'59,p45). The 217,000 acres it renounced are east and southeast of its Sinco field.

•

MEXICO—Pemex is bringing in its first U. S. contractor to help build the big 24-in. gas line to Mexico City from Pemex City. Collins Construction Co. of Port Louaca, Tex., and a Mexican contractor will build eight river crossings for the 291-mi. line.

•

Gas Field 35 Times Size of U.S. Reserves?

USSR—If Russia's claims for its giant new gas discovery prove correct, it would be equal to 35 times the entire U.S. proved gas reserves.

A Tass dispatch from Ufa, capital of Bashkir province, says that reserves of the new discovery area, 400 mi. north of the Caspian Sea, are estimated at 8,800-trillion cu. ft. The pay, they claim, is 1,640 ft. thick. Reserves of this size would be equal to 100 wells each producing 1-billion cf/d for 241 years. Tass says the new field is about the same size as the earlier Ukraine Shebelinka discovery.

Wildcats in the News

ARGENTINA—Union Oil Co., of California found oil last week at 4,038 ft. in its first Argentine wildcat. Initial flow was at a 565 b/d rate. The site is near Lake Colhue Huapi, on a Union Oil tract directly north of Pan American International's Comodoro Rivadavia acreage.

CUBA—Texaco has abandoned drilling operations in Cuba. Its final test, No. 1 Mayajigua, is bottomed at 10,004 ft. Texaco reported no shows in the test. It plans no further drilling on the island, according to the Cuba Petroleum News Digest.

AUSTRALIA—The Delhi Taylor-Santos-Frome group will abandon No. 1 Innamincka, its first test in the Great Artesian basin. The wildcat, bottomed at 12,637 ft., will be completed as a fresh water well after oil and gas shows high in the hole are tested. The group plans its second test on the Betoota structure, 170 mi. to the north.

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DEPT/Marketing

Oil Marketers Team Up Against Gas

Last week the oil heat marketers of the nation laid the foundation for a truly centralized oil heat promotion and research setup.

The new organization (as yet unnamed) was approved by the American Petroleum Institute and the National Oil Jobbers Council at their Chicago meetings. It brings together under one roof all the important fuel oil marketing groups.

It will supersede the Oil Heat Institute of American and the National Fueloil Council, both of which will disband once the new organization starts operating, some time after July 1, 1960.

Much of the activity of the API Fuel Oil Committee will also be absorbed by the new organization, particularly its research function. But API plans to retain its Fuel Oil Committee to operate in part as a liaison body between API and the new unit.

To work out the details of the new unit and give it manpower, an organization committee will be formed.

This committee is composed of representatives from OHI, NFC, and API. It is not expected to plow into its job until after Jan. 1.

A top-ranking man from the industry is being sought to assume the position of operating head of the unit.

He'll be expected to resign all company affiliations and devote his full effort to the new assignment. With a salary ranging up to $25,000, the new man could possibly come from the ranks of recently retired marketing executives.

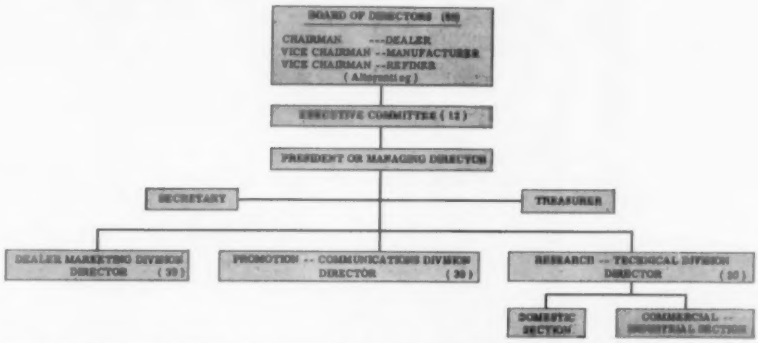
Reporting directly to the president will be a secretary, a treasurer, and three directors to head the three functional divisions of the organization (chart, above).

The secretary will be responsible for the general administration of the unit, including accounting and personnel functions. In addition, he will supervise market research and statistics, membership, expositions, and legal functions.

The treasurer, a non-paid industry man, will supervise budget and finance operations.

For personnel to run the daily tasks of the new unit, the organization committee is expected to look mainly to the Oil Heat Institute and the National Fueloil Council.

Over-all, the new organization will have a paid staff of 23, costing $250,000 annually in salaries, $50,000 in employee benefit plans, and $32,000 in travel expenses.



THE ORGANIZATION of the new oil heat body calls for a board of directors of 60, with equal representation among dealers, manufacturers, and refiners. A 12-man executive committee, appointed from the board, will preside, directly over the president. Each of the three functional divisions will have a 30-man advisory council.

Most of these and other operating expenses will be met by membership dues, of which refiners will contribute two-thirds. An additional $55,000 in income is anticipated from the biennial exposition and from sale of sales promotion pieces.

Despite the national character of the new oil heat unit, the organization committee will strive to retain a local orientation in its oil heat promotion.

One of the biggest advantages that is recognized in a large national organization is the unity and breadth that it can contribute to oil heat promotion.

But the planners also recognize that locally run promotion campaigns are much more flexible in adapting themselves to changing local conditions. For example, a local group can work with home-builders with a rapidity that is not always possible on a national scale.

Consequently, the organization committee is expected to be guided by the success of the present NFC promotion plan. In this plan, local member groups are given funds by NFC to match their own contributions, but NFC interposes no influence over the disbursement of funds.

In the new organization, a Finance Committee will be responsible for the allocation of funds. At present, this committee is not shown on the organization chart, but it is known that membership and voting rights on the committee will be proportionate to the dollar support of the various industry segments in the organization.

The new organization is structured along functional lines, with divisions devoted to marketing, promotion and communications, and research and technical activities.

The marketing division will be responsible for the operation of burner service schools, sales training, management conferences, and other functions to "upgrade and improve" heating oil and equipment sales.

The promotional division will supervise advertising, public information, and other image-building activities.

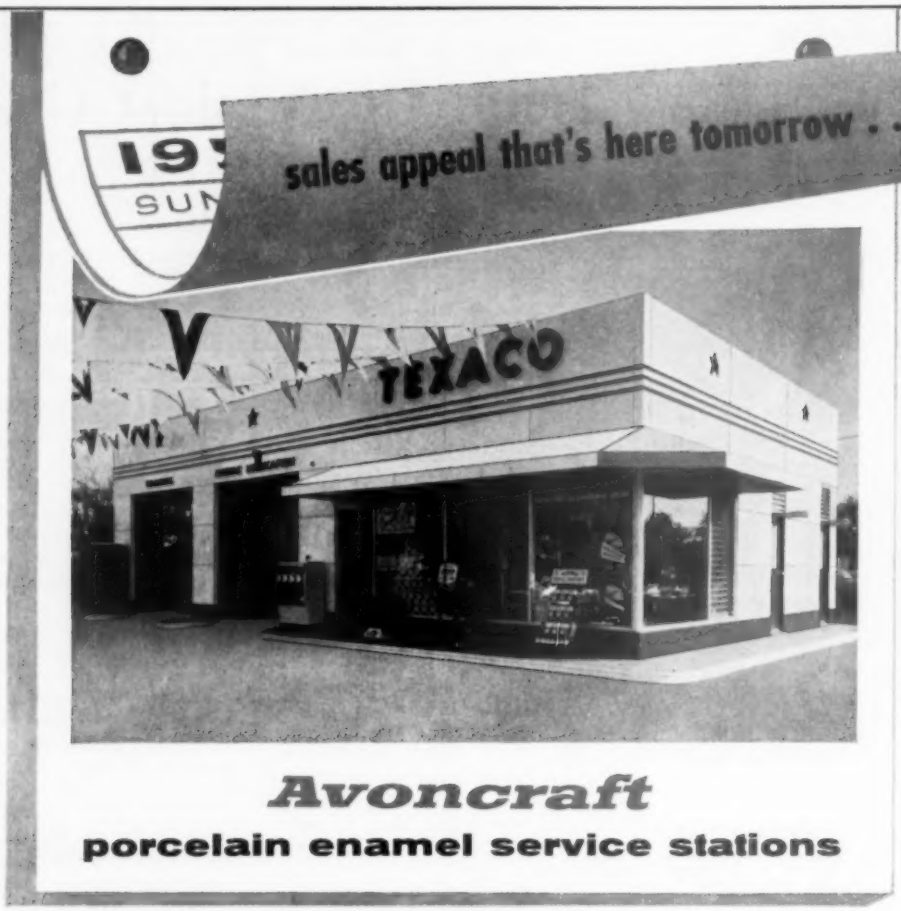
In research, the new organization will take over the API oil-heat research project and head the industry's cooperative effort to develop a low-cost oil burner.

Before this functional division of responsibility was decided upon, the API task force had considered a class-of-trade breakdown, with divisions comprised of refiners, manufacturers, and distributors.

At present only 12 refiners have committed themselves to membership in the new organization.

But the recent decision by Standard Oil Co. (Ind.) to join the National Fueloil Council (PW—Sep.25 '59,p92) is expected to induce more refiners to join the unit, especially those in the Midwest.

Another hopeful indication was the presence of S. C. Bartlett, vice-president of domestic sales for Texaco Inc., at last week's meeting of the API Committee. Texaco is the largest of the refiners that have not joined NFC.



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What's New / IN MARKETING

The American Petroleum Institute is planning to meet with automobile manufacturers in February to make suggestions on automobile designs that affect service station operation.

Through the Subcommittee on Automobile Parts & Design of the Service Station Advisory Committee, API is "working to establish a satisfactory formal channel of communication with the automobile industry."

Edward W. Lang, vice-president of sales for Cities Service Oil Co. (Pa.) and chairman of the subcommittee, hopes to have completed a survey of 1960 automobiles by the time his group meets with the automakers.

The survey, to be distributed among selected dealers, is designed to generate information on the accessibility and ease of servicing various parts of the 1960 models.

•

Oil heat marketers may soon reap the benefits of oil industry research activity, according to D. W. Locklin, who is coordinating the API research project (PW—Mar.13'59,p87).

Several heating concepts are proving quite promising, he says, including controlled recirculation of combustion products, catalytic and surface combustion, and unusual atomization techniques.

Among the new uses for fuel oil is the possible generation of electricity, says Locklin.

These are just a few of the fruits that may come from the $500,000-a-year investment that oil refiners are making in fuel oil research.

•

Interstate highway motorists will be adequately served by service stations located off the main highway, API's Committee on Public Affairs told oil marketers at the API fall meeting. The report emphasized that service stations located at intersections and in parallel frontage roads have provided adequate service for highways that have few exits.

Such stations make unnecessary outlets built directly on the highway, where free enterprise is not possible, the report said.

•

Trading stamps have become one of the major sales promotional devices used by service stations, according to Dr. Harvey L. Vredenburg, of Iowa State University. In his recently concluded study of trading stamps at service stations, Vredenburg found that "an estimated 33% to 40% of the service stations in the nation today use some form of stamp program."

"The rate of expansion has leveled off, though, and the proportion using stamps is not likely to increase," Vredenburg concludes.

•

The Retail Gasoline Dealers Assn. of Michigan has begun offering labor relations counseling service to its member dealers.

RGDA is believed to be the only dealer association engaged in this activity. It attributes the necessity for labor counseling to "considerable union activity in various areas of Michigan."

New oil recovery processes such as Miscible Displacement have their origin through research in Atlantic Refining Company's laboratory in Dallas.

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U.S. in-the-ground supply of oil is limited . . . but daring, efficient *research* by Dallas scientific brainpower is meeting the challenge to keep the U.S. strong in this vital resource by developing new and more effective discovery and recovery techniques.

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The Market Place AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

All prices as of November 16

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal. except dollars per bbl. where $ is shown)

Western Hemisphere

U. S. Gulf Coast, cargoes
- Gasoline, 98 oct prem....12.25-13
- Gasoline, 92 oct reg....11-11.5
- Kerosine....8.625-10.375
- Heating oil, No. 2....8.125-9.875
- Gas oil, 48-52 d.i....8.375-10.125
- Fuel oil, bunker "C"....$2.00-2.10

Caribbean, cargoes
- **Avgas, Grade 100/130....14.75↓**
- Gasoline, 93 oct research prem....11.25
- Gasoline, 87 oct research reg....10.375
- Gasoline, 79 oct research....9.625
- Gasoline, 70-72 oct motor method....9.5
- Kerosine....8.625-8.875
- Heating oil, No. 2....8.125
- Gas oil, 48-52, d.i....8.375
- Fuel oil, bunker "C"....$2.00

New York Harbor, barges
- Kerosine....9.35-9.6
- Heating oil, No. 2....8.85-9.1
- Fuel oil, No. 6....$2.37-2.47

Okla-Group 3, northern shpt., bulk
- **Gasoline, 91 oct reg....10.5↓-11.5↓**
- **Kerosine....10↑**
- **Heating oil, No. 2....8.75↑-9↑**
- **Fuel oil, No. 6....$1.50↑-1.80**

Chicago, bulk
- Gasoline, 91 oct reg....11.5-11.75
- Heating oil, No. 2....9.125-10.85
- Fuel oil, No. 6 high sulfur....7.4-7.5

Los Angeles, rack
- Gasoline, 88 oct reg....12.15-12.65
- **Diesel fuel, PS 200....7.75↓-11.25**
- Light fuel, PS 300....$2.80
- Heavy fuel, PS 400....$2.15-2.35

Natural Gasoline, Grade 26-70
- FOB Group 3....4.5
- FOB Breckenridge, Tex....4

LP-Gas
- Propane, Oklahoma (Group 3)....5
- Propane, Baton Rouge....5.625-5.875

Pennsylvania Lubes
- Bright stock, 25 p.t....23
- 200 vis. neutral, 25 p.t....25

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent, 95 v.i....24-25
- Neutral, solvent, 200-210 vis....20.5-21.5

Gulf Coast Lubes
- Bright stock, solvent, 95 v.i....24
- Neutral, solvent, 200 vis....20.5

Eastern Hemisphere

Singapore (Pulau Bukom), cargoes
- Avgas, grade 100/130....16.5
- Gasoline, 79 oct research....10
- Kerosine....10.125
- Gas oil, 48 d.i. minimum....9.625

KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, (Okla.-Kan.), 36.0-36.9....$2.62-2.97
- North Dakota, 36.0-36.9....2.62-2.87
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9....3.50
  - Gulf Coast, Upper & Lower, 26.0-26.9....2.92-3.22
  - West Texas, sweet, 36.0-36.9....3.00
  - West Texas, N. M., inter., 36.0-36.9....2.93
  - West Texas, N. M., sour, 32.0-32.9....2.71
  - East Texas, flat....3.05-3.25
  - Mirando, 28.0-28.9....3.31
- Illinois Basin, flat....3.00
- Pennsylvania Grade, Bradford dist., flat....4.40
- California, Signal Hill, 21.0-21.9....2.22-2.32†
- North Louisiana-Arkansas, 36.0-36.9....2.77-3.02
- Wyoming, sweet, 36.0-36.9....2.85-2.90
- Wyoming, sour, 32.0-32.9....2.63-2.71

Canada (flat prices, at the well)
- Pembina (Alta.)....$2.38
- Leduc-Woodbend (Alta.)....2.53
- Redwater (Alta.)....2.42
- Steelman A (Sask)....2.435
- Virden (Man.)....2.31

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 47.0-47.9, Tucupido....$3.34
- San Joaquin, 41.0-41.9, Puerto la Cruz....3.10
- Oficina, 35.0-35.9, Puerto la Cruz....2.78-2.80
- Tia Juana, Medium, 26.0-26.9, Amuay....2.30
- Bachaquero, flat, Las Piedras....1.73-1.88
- Tarra, 38.0-38.9, San Lorenzo....2.83
- Lagunillas Heavy, flat, Cardon....2.10

†Differential per deg. of grav. varies.

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabia, 34.0-34.9, Ras Tanura....$1.90
- Safaniya, 27.0-27.9, Ras Tanura....1.50
- Iran, 34.0-34.9, Bandar Mashur....1.86
- Iran, 34.0-34.9, Abadan....1.81
- Iraq, 35.0-35.9, Fao....1.80
- Kuwait, 31.0-31.9, Mina-al-Ahmadi....1.67
- Qatar, 41.0-41.9, Umm Said....2.05
- Neutral Zone, Burgham, 23.5-24.4, Mina Saud....1.51
- N. Zone, Eocene-Ratawi, 20.5-21.4, Mina Saud....1.38

Middle East, Eastern Mediterranean
- Arabian, 34.0-34.9, Sidon....$2.27
- Iraqi, 36.0-36.9, Tripoli, Banias....2.31

Far East, Cargoes FOB Lutong, Sarawak
- Seria Light, flat....$2.57

KEY TANKER RATES

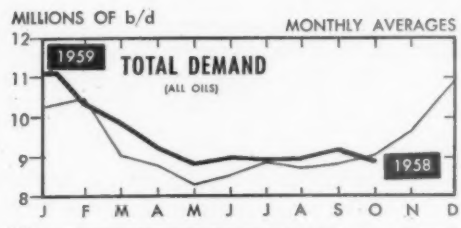
(Last paid, per long ton, single voyage)

- U.S. Gulf-New York, clean....(USMC—25%) $2.14
- U.S. Gulf-New York, dirty....(USMC—30%) $2.00
- **NWI-USNH, dirty....(USMC—45%) $1.51↓**
- NWI-UK/Cont., dirty....(Scale—47½%) 17/1*
- Persian Gulf-UK/Cont., dirty....(Scale—50%) 24/3*
- **Persian Gulf-USNH, dirty (USMC—67½%) $4.13↑**

**Sterling.*

PETROLEUM WEEK'S

Fingertip Figures



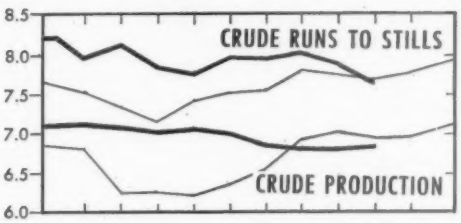
Figures for period ended November 13, except as noted

TOTAL DEMAND

Latest 4-week average	9.509
Year ago	9.562

DISTILLATE DEMAND

Latest 4-week average	2.152
Year ago	2.088

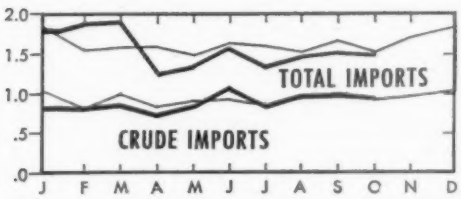


RUNS TO STILLS

Latest week	7.892
Previous week	7.681
Year ago	7.755

CRUDE PRODUCTION

Latest week	6.876
Previous week	6.899
Year ago	6.968

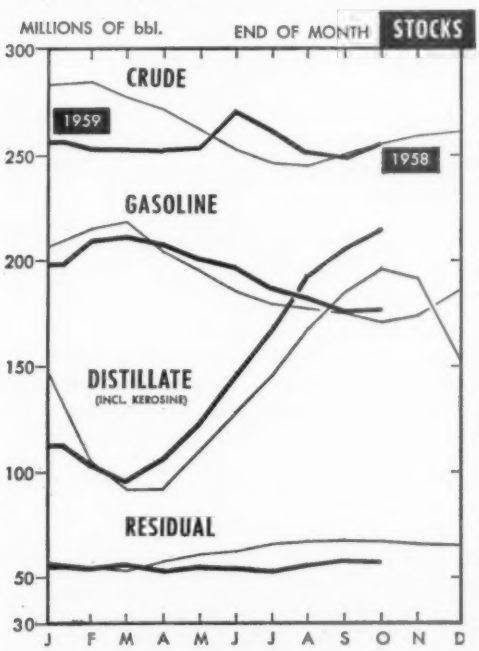


TOTAL IMPORTS

Latest week	1.826
Previous week	1.318
Year ago	1.951

CRUDE IMPORTS

Latest week	1.064
Previous week	.753
Year ago	1.176



CRUDE STOCKS

Week-ended 11-7	254.0
Previous week	256.3
Year ago	254.1

GASOLINE

Latest week	176.4
Previous week	175.8
Year ago	169.3

DISTILLATES

Latest week	211.6
Previous week	214.4
Year ago	196.6

RESIDUAL

Latest week	58.0
Previous week	57.7
Year ago	67.3

Distillates inventories showed the first decline of the current heating season last week, dropping 2.8-million bbl. to 211.6-million bbl.

But stocks of distillates, including kerosine, are still excessive relative to the needs of a normal winter. Thus, barring an unusually cold winter, the heavy position of distillates inventories promises to keep prices at low levels.

It's too early to predict weather other than "normal" for the heating season, even though the degree-day count so far since Sept. 1 shows that the nation's weather has averaged 3.4% colder than normal.

There is still no need for increased refinery runs in view of the stock position, despite a prediction by the Bureau of Mines this week that December runs need to average 8.2-million b/d.

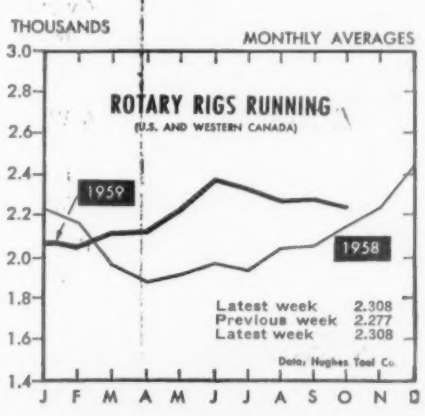
Refinery runs rose by 200,000 b/d in each of the last two weeks, from the low of the year reached in the Oct. 30 week.

At the current level of 7,892,000 b/d, the throughput rates are adequate to maintain distillates stocks. And they should not be allowed to rise much above this level if the industry is to keep inventories from becoming excessively burdensome.

The industry, which hasn't experienced a period of tight stocks in the past three or four years, could make a big stride toward reduction of surplus inventories during the coming winter months if runs are held reasonably low.

Unnecessary hikes in refinery runs now, in addition to keeping distillates stocks high, will add more gasoline to storage, which will have to be carried over into the spring of 1960.

Then the industry's perennial oversupply cycle will be repeated.



The Market Trend

Gasoline: Product with Many Faces

Gasoline is a product of contrasts this week. It is firm at the Gulf, seasonally soft in the Mid-Continent, teetery in Chicago, sloppy in the Caribbean, laughably low in the Rocky Mountains.

Firmness in gasoline at the Gulf showed up when a buyer paid the "full price" for a part cargo at the mouth of the Mississippi. The buyer said he had to ask at several sources before he found a prompt 35,000 bbl. parcel for pipeline input in Louisiana.

But prices are easier as you work up into the inland markets. Kansas prices fell 0.25¢ last week. Prices for Oklahoma northern shipment were easier. Chicago retail is unsteady, could be on the verge of an open break.

The Gulf-Chicago "arithmetic" on gasoline virtually outlaws new spot sales up the river by barge. Regular 91-octane gasoline at the Gulf is 10.875¢, and the same product is 11.5¢ into trucks in Chicago. This leaves a spread of only 0.625¢ between the two markets, the lowest in years. Spot towing rates for Gulf-to-Chicago hauls are running about 0.225¢ a ton-mile, or about 1.25¢ a gal.

The Gulf-Caribbean contrast in gasoline prices is even more striking. When the military came into the markets last week for first-half 1960 regular-grade, it found few bargains in the Gulf, many in the Caribbean.

Offers of 83/91-octane to the military ranges as much as 3.25¢ a gal. apart for Gulf and Caribbean loadings. At the Gulf, for example, Eastern States offered at 11.248¢. In the Caribbean, Esso Export quoted 8.46¢ at Aruba, Shell was 8.37¢ at Curacao, and Gulf was 7.98¢ at Puerto la Cruz.

The Rocky Mountains recently have had the distinction of the lowest prices just about anywhere. The average deal price in Denver has been down to 6.40¢. Albuquerque was not much better, at 7.30¢.

The teaser this week is what the military will pay for regular-grade for pipeline input at Donges, France. Last May the price was a real beauty —7¢, landed, on 52-million gal.

Avgas Prices Cut:

Esso Export reduced its prices for aviation fuels by 0.5¢ a gal. last week for cargo loadings at Aruba. Esso's prices now range from 12.75¢ for Grade 73 clear, to 16¢ for Grade 115/145.

Avgas is soft at the Gulf, too. A cargo of Grade 115/145 was sold this week at 1.5¢ below the Caribbean prices for export.

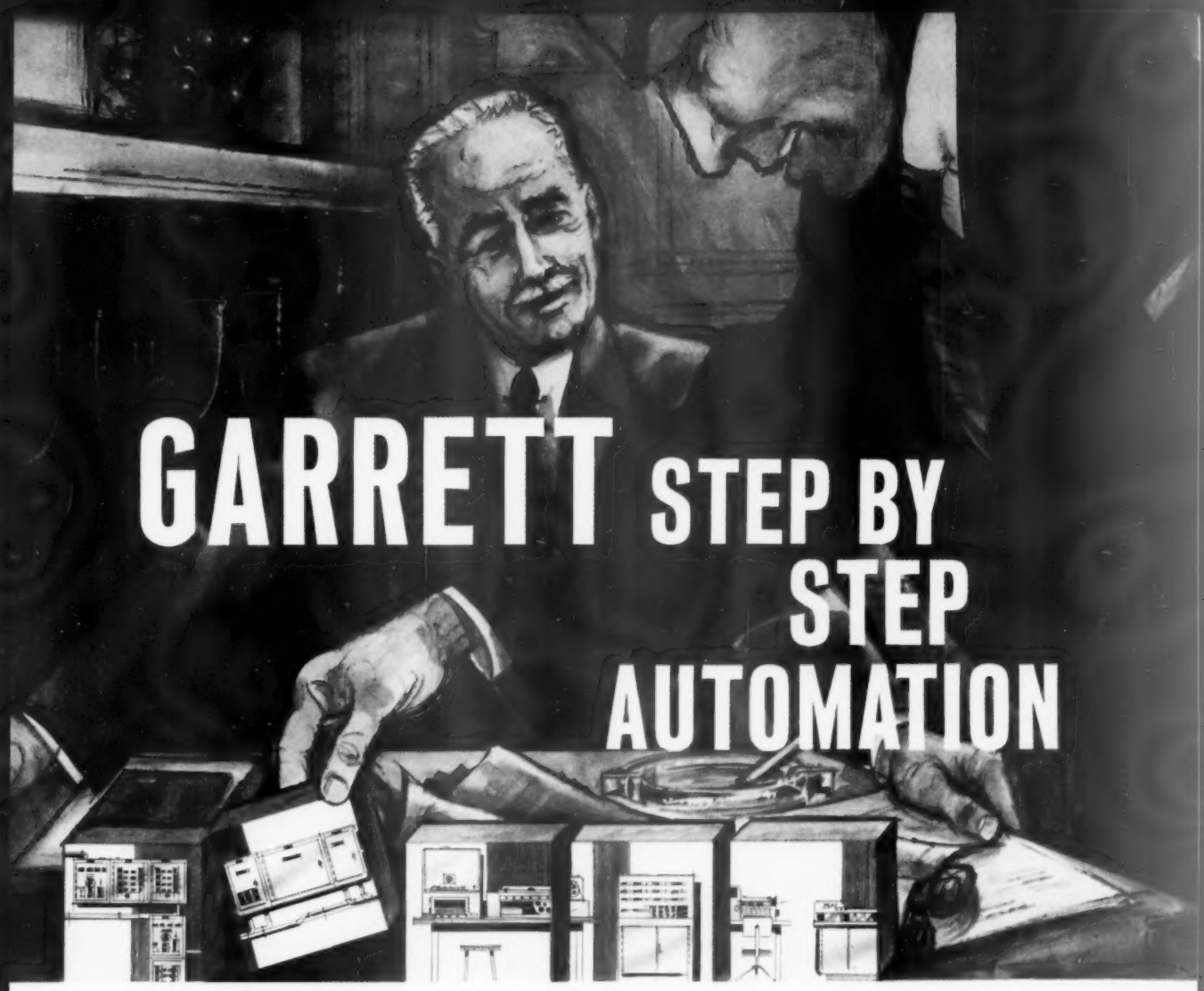
A New Face:

A West Coast major, up to now a bystander in the quota trading business, came into the market last week. He picked up a good-sized part of a Midwest refiner's 10,000 b/d crude import allowance "somewhere between 90¢ and $1."

The word around the markets this week is that first-half 1960 crude quotas pretty much are selling around $1.

Foreign Crude:

Weakness in high-gravity Venezuelan crudes shows up in a report of a 2.5-million-bbl. offer of 40-gravity at $2.20 a bbl., f.o.b. Lake Maracaibo. This works out to about 88¢ off posted.



GARRETT STEP BY STEP AUTOMATION

Test Programmer • Data Coder • Test Recorder • PN-Translator • Electronic Records

Garrett's Building Block design provides economical automation. You can start with the simplest well control system — adding further automation as the lease expands.

Typical of the operating flexibility inherent in *Garrett's* design is the C-1 Well Test Programmer. When the capacity of the first unit is exceeded, it may be expanded to an almost unlimited number of wells. This is accomplished simply by adding slave units to the master control panel.

Throughout every phase, *Garrett* units have been engineered for operating simplicity and dependability. Complex radio circuitry has been eliminated by using standard 115 volt a.c. input and output voltages. Many elements are plug-in type, requiring no electrical knowledge to replace. Commercially available components are used wherever possible, giving a degree of standardization and availability unequalled in other equipment.

Garrett automation covers every step of production control: wellhead flow, well test programming, LACT, recording, communications . . . plus home office reports and machine records.

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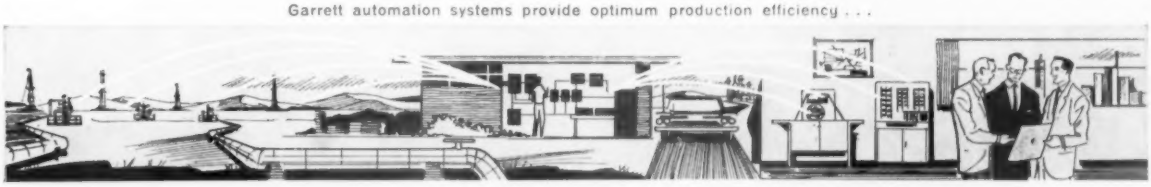

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TRET-O-LITE Demulsifying Chemicals separate a water phase from an oil phase, or vice versa.

Separation procedure consists of injecting and dispersing a small proportion of the proper TRET-O-LITE Demulsifier with the emulsified fluids, then providing suitable storage where oil and water can separate. Because of the large number of problems encountered in treating petroleum emulsions, a large number of chemical demulsifiers have been developed.

TRET-O-LITE* *Chemical Desalting*

TRET-O-LITE Chemical Desalting removes harmful salts from crude oils, and does so in the 95% to 100% efficiency range. It is currently being used to process over 1½ million barrels of crude daily at an average chemical cost of 1.3 mills per barrel.

The Tretolite Company offers a choice of installation plans: Tretolite desalting equipment may be purchased, rented, rented with option to purchase, or constructed by the refiner according to Tretolite design and specifications.

KONTOL* *Corrosion Inhibitors*

These liquid organic semi-polar compounds are available in various formulas, which adsorb on metal surfaces to form an impervious film that inhibits corrosion. This film protects the equipment from corrosive elements in either brine, crude oil, gas or combinations of these. The strength of the bond between the protecting KONTOL film and the metal surface is demonstrated by the fact that protection continues for a substantial period after treatment is stopped.

AP-59-1

SOLVO* *Paraffin Removers*

SOLVO can be injected into oil wells, pipelines, or storage facilities to remove and prevent the accumulation of paraffin. Such deposits often cause sucker rods to stick, requiring shutdown for removal. They also clog lead lines to the point where fluid throughput is seriously reduced. Paraffin settlings rob storage tanks of valuable capacity. SOLVO is useful in removing and preventing such accumulations.

FLUDEX* *Water Flood Additives*

FLUDEX is applicable to the stimulation of injectivity in water flood and water disposal systems. It acts also to prevent corrosion and scale deposition, and to assist in maintaining and restoring the permeability of formations.

S. P. *Scale Preventives*

S. P. Scale Preventives are used in producing wells to prevent the deposition of calcium hardness scales. They prevent damage caused by deposition of scale in oil well tubing, sucker rods, well casing, flow lines, heaters and water-disposal or water-flood systems.

TOLAD† *Fuel Additives*

TOLAD Fuel Additives are ashless, totally oil-soluble compounds designed to enhance the stability of domestic heating oils and diesel fuels, as expressed in color and residue. These additives have excellent water tolerance characteristics in reducing sludge formation and loss to water bottoms in fuel storage. They are available in inhibitor or inhibitor-dispersant formulas.

*TRET-O-LITE, KONTOL, SOLVO and FLUDEX are registered trademarks of Petrolite Corporation.

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J. T. Orton

T. C. Lemcke

T. C. (Ted) LEMCKE returns to Reed Roller Bit Co.'s headquarters in Houston to assume new sales responsibilities, and **JOHN T. ORTON** succeeds him in London as sales division manager for the Eastern Hemisphere. Orton has been sales division manager for northern South America since 1957. Lemcke, with Reed since 1939, has been in the London office for the past three years.

HENRY FRANKS becomes district sales manager for Jones & Laughlin Supply Division's central Rocky Mountain district, at Casper, Wyo. He has been manager of the subsurface equipment section, in Tulsa, since 1957. He joined the division in 1950 as a special representative.

BRIAN A. WILSON becomes sales engineer for the Bendix Filter Division of Bendix Aviation Corp., with offices in Detroit. He will handle filter-water separator applications and installations for government facilities, refineries, and general industry. He was formerly a sales engineer for Aviation Electric, Ltd., of Canada, another Bendix subsidiary.

J. M. BRANNAMAN has been named branch manager in charge of initiating a new field office for Cooper-Bessemer Corp. in Pittsburgh. The new office, under the direct supervision of **F. M. Devin**, vice-president and district manager, will handle sales and engineering contacts in eastern Ohio and western Pennsylvania. Brannaman was formerly located at Cooper-Bessemer's Mt. Vernon (Ohio) office.

EWING Y. (Tom) FREELAND has joined Continental-Emsco Co., Dallas, as advertising manager. He was formerly an account executive with an advertising agency in West Texas.

DONALD E. BYRNES is the new assistant sales engineer in the Dallas office of Nordberg Mfg. Co. He was formerly an assistant in the sales department. In his new position, Byrnes will serve users of Nordberg two- and four-cycle in-line and V-type engines for municipal, industrial, and pipeline applications.

ALLEN F. RHODES is president, and **CHARLES B. WRIGHT** vice-president and general manager, of a new company named MGL Corp., Houston, which will handle the sale and manufacture of gas lift valves. Rhodes is also vice-president of engineering and manufacturing for McEvoy Co., Houston. Wright was formerly general manager of the McEvoy gas lift division. The new firm was established as a result of McEvoy's decision to discontinue the manufacture of its gas lift valve. McEvoy sold manufacturing rights to the gas lift valve to a group of its employees.

MAJ. GEN. HARRY REICHELDERSER, (USA, ret.), is the new administrative vice-president, and **DR. JAMES SHARP** and **HENRY KORP** are new technical vice-presidents, for the Southwest Research Institute, in San Antonio. Reichelderser joined the institute in 1956 after his retirement from the Army. Sharp, with the institute since 1954, was most recently chairman of the department of physics, and Korp has been head of the department of engines, fuels, and lubricants research since he joined the institute in 1953.

J. R. Moechel

C. P. Siess, Jr.

CHARLES P. SIESS, JR., is in charge of equipment and processing sales, and **J. R. MOECHEL** is in charge of chemical desalting process equipment, for the Petreco division of Petrolite Corp., in Houston. That division was recently made responsible for all equipment sales and process engineering for the company's domestic and Canadian divisions. Siess transferred to Houston from the Tretolite division in St. Louis. So did Moechel, who was in charge of refinery sales and service there. **H. R. (Reg) Jarvis**, who was formerly in charge of the Ft. Worth regional office for Petreco, is now in charge of electric processing equipment sales, in Houston. **Logan C. Waterman**, formerly sales manager for Tetreco processing equipment, has been promoted to director of a new development department.

H. JOHN EASTMAN, president and founder of Eastman Oil Well Survey Co., has announced the sale of the company to **Philip D. Arterburn** of Denver. Arterburn, who has served as financial advisor for Eastman Oil Well Survey since 1943, will be the new president. Eastman will continue as chairman of the board.

ROBERT D. INNES becomes director of public relations for the Electro-Motive Division of General Motors Corp., in LaGrange, Ill. Innes, formerly assistant director of public relations, succeeds the late **Volney B. Fowler.**

W. W. GRATEHOUSE has been appointed vice-president of Drilling Tools, Inc., and **J. E. Pattillo, Jr.**, has been appointed to the newly created position of sales manager. Gratehouse, who has offices in Lafayette, La., will continue to manage the company's Louisiana operations. He has been with the company since it was organized in 1953. Pattillo will supervise the sales activities of the company's offices at Lafayette, Houma, and Sulphur, La., and the company's sales operations in the Texas Gulf Coast area.

W. W. Gratehouse

R. B. Gibbs

ROBERT B. GIBBS, formerly a salesman in Odessa for Lufkin Foundry & Machine Co., moves to Lufkin's export office in New York. He will assist **A. V. Simonson**, export division manager.

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DEPT/Personals

NEW OFFICERS of the Rocky Mountain Oil & Gas Assn. were elected at the association's annual meeting in Denver this month. **Frank H. Gower**, Denver oil operator, was elected president, succeeding **A. F. Barrett**, vice-president and general manager of Mobil Producing Co., Billings, Mont. **L. L. Aitken, Jr.**, Utah Southern Oil Co., Denver, is the new vice-president for Colorado. **R. W. Gemmer**, Carter Oil Co., Billings, is the new vice-president for Montana, and **Grant A. Brown**, Utah Oil Refining Co., Salt Lake City, is the new vice-president for Utah and Idaho. Three reelected officers are: **James L. Parmelee**, Northern Natural Gas Co., vice-president for Nebraska; **Warren A. Morton**, MKM Oil Co., Casper, vice-president for Wyoming and South Dakota; and **Walter W. Wittlinger**, Consolidated Industries, Inc., treasurer.

E. J. Wacker, Jr.

F. H. Gower

E. J. WACKER, JR., becomes vice-president of the recently expanded Magnolia Pipe Line Co., Dallas. The company is the transportation affiliate in the U.S. and Canada of Mobil Oil Co., operating division of Socony Mobil Oil Co. Wacker was appointed assistant vice-president of Magnolia Petroleum Co. in 1957, and earlier this year, he was named vice-president. On Oct. 1, he became assistant to the senior vice-president of Mobil Oil.

JULIAN M. SCHON becomes manager of Caltex (Middle East), Ltd., with headquarters in Beirut, Lebanon. He will direct Caltex marketing operations in Libya, Lebanon, Syria (UAR), Jordan, Saudi Arabia, Iraq, Iran, and the Sudan. He was formerly with Caltex in New York.

WISTER H. LIGON, president and director of Nashville Gas Co., Nashville, Tenn., was elected president of the American Gas Assn., at its annual meeting in Chicago last week. Other new officers of the association are: **Lester T. Potter**, president of Lone Star Gas Co., Dallas, first vice-president; **Edward H. Smoker**, president of United Gas Improvement Co., Philadelphia, second vice-president; and **Vincent T. Miles**, treasurer of Long Island Lighting Co., Mineola, N.Y., treasurer.

REINHARD S. WOBUS has been named to the new executive post of product director for petroleum chemicals and functional fluids in Monsanto Chemical Co.'s organic chemicals division. Wobus was formerly technical production manager of the division. He will report to the assistant general manager of the division, and will be responsible for planning, recommending, coordinating, and evaluating the efforts and results of the division's research, development, engineering, manufacturing, and sales functions, in behalf of his product group.

H. P. Pressler

R. J. Farrell

HERMAN P. PRESSLER and **RICHARD J. FARRELL** are new members of the American Petroleum Institute's committee of public affairs. Pressler, director of crude marketing and public relations for Humble Oil & Refining Co., Houston, succeeds **Morgan J. Davis**, president of that company. Farrell, associate general counsel of Standard Oil Co. (Ind.), Chicago, succeeds **Thomas E. Sunderland**, formerly with that company.

BASIL P. KANTZER, vice-president, is now in charge of exploration for the United States (including Alaska) and Canada, for Union Oil Co. of California, with offices in Los Angeles. He succeeds **Sam Grinsfelder**, vice-president, who is retiring. **K. C. Vaughn** succeeds Kantzer as manager of operations for the Gulf division, at Houston. **J. R. Fraser**, assistant to Vaughn in the natural gas and gasoline division in Los Angeles, succeeds him as manager of that division. **E. C. Babson** transfers to California as manager of foreign operations, and **E. W. Scott** succeeds him as manager of the Canadian division, at Calgary. Scott was formerly staff geological coordinator. **E. R. Atwill** also transfers to California for special assignment to the exploration department staff. **Ray A. Burke** succeeds him as manager of operations of the West Texas division, at Midland. Burke has been chief geologist for the Gulf division.

LAWRENCE J. O'CONNOR, JR., is the new assistant director of the Office of Oil & Gas, in the Interior Dept. He was formerly vice-president and treasurer of Goldston Oil Corp., Houston.

ROBERT E. ELLIOTT and **WILLIAM A. HUBBARD** have newly created positions in the marketing department of Amoco Chemicals Corp., Chicago. Elliott becomes manager, industrial chemicals services, and is responsible for the product technology and technical service of the industrial chemical lines as well as for advertising and sales

promotion for the entire company. Elliott was formerly Chicago district manager. Hubbard becomes manager, industrial chemical sales, and is responsible for directing sales through the company's district offices. Since he joined Amoco Chemicals in 1957, Hubbard has been supervisor of the product technology group and assistant to the general sales manager.

JOHN R. SPENCER has been appointed director of natural gas activities for Continental Oil Co.'s production department in Houston. He succeeds **J. W. Ferguson**, who was recently named general manager of Conoco's newly established intrastate gas and gas products department. **B. L. Waggoner** succeeds Spencer as engineering section chief, reserves and evaluations, in Houston, and **B. F. Willson** becomes assistant director of natural gas activities there. Spencer, who joined Conoco in 1951, was formerly with California Research Corp.

J. R. Spencer

E. L. Maxwell

EUGENE L. MAXWELL moves up to the newly created position of director of domestic exploration for Lion Oil Co., a division of Monsanto Chemical Co., in Houston, on Jan. 1. **Arthur L. Bergren, Jr.**, succeeds Maxwell as Rocky Mountain regional manager, with offices in Denver. **Thomas W. Lins** replaces Bergrens as regional geologist in Denver.

BILL J. LANGFORD has been elected vice-president in charge of production and field activities for Heritage Petroleum Corp., Dallas. Langford, with the company two years, was most recently chief engineer and production superintendent. He is also vice-president of Frontier Drilling & Production Co., Midland, a subsidiary of Heritage.

ED STARR has been appointed deputy coordinator in the general administration section of Esso Research & Engineering Co. He was formerly on special assignment in general administration. In his new position, Starr will be responsible for overall consolidation of supporting functions in the company that are presently carried out by various divisions. The first step in the consolidation program was the recent formation of the mechanical division. It will conduct the mechanical functions formerly handled by products research, process research, chemical research, and process. **Ollie Kangas** is manager of the new division, and **Russ Boettger** is assistant manager. Kangas was formerly in products research, and Boettger in process research. **Ray Van Sweringen, Bob Risher,** and **Ernie Musselwhite** have been named section heads. Van Sweringen was formerly in chemical research, Risher in products research, and Musselwhite in process research.

J. S. HARRIS has been named manager of the newly established products and commercial sales group in Shell Oil Co.'s marketing organization. **R. M. Adamson** succeeds him as manager of the company's aviation department. In his new post, Harris will be responsible for six departments: aviation sales, lubricants-special products, fuel oil and LPG, asphalt sales, national sales, and railroad sales.

J. S. Harris

J. H. Keyes, Jr.

JOHN H. (Jack) KEYES, JR., will be manager of the Bayou Pipe Line System, when Service Pipe Line Co. takes over the Bayou operation from Shell Pipe Line Corp., on Jan. 1. Shell had asked to be relieved of the operation, and the other owners designated Service as the new operator. Keyes, formerly superintendent of Service's Casper district, will be headquartered in Baytown, Tex.

RAYMOND C. KECK has been appointed manager of the advertising department of Cities Service Petroleum, Inc., and **Robert G. Shortal** has joined the news staff. Keck, who was formerly advertising and sales promotion manager of Cities Service Oil Co. (Pa.), an affiliate, joined the Cities Service organization in 1937. Shortal has been with United Press International since 1947.

JOSEPH L. SEGER has been named president of Carter Oil Co., Tulsa, affiliate of Standard Oil Co. (N.J.) and **Carl G. Herrington**, vice-president succeeds him as executive vice-president. Seger succeeds **John W. Brice**, who will become a director and officer of Humble Oil & Refining Co. (Del.), on Dec. 1, if the proposed Jersey-Humble of Texas merger is approved this month. **H. W. Haight**, chairman of Carter, will also resign on Dec. 1 to become a Humble director and officer.

NORMAN C. SCHUMACHER moves up to sales supervisor of petroleum additives for Amoco Chemicals Corp., Chicago. Schumacher transferred to Amoco Chemicals in 1957 as a sales engineer for petroleum additives. Before that, he was in the technical sales service department of Standard Oil Co. (Ind.), Amoco's parent.

IRA NEEDHAM, JR., becomes acting manager of Pure Oil Co.'s Rocky Mountain producing division, with headquarters in Denver. He succeeds **Harris Van Zandt**, who was recently named general manager of Pure's domestic and foreign exploration and production operations. Needham has been on special assignment at the company's general offices in Chicago since August. Before that, he served the Rocky Mountain division as chief accountant and office manager.

WILLIAM J. SCOTT is the new district superintendent of Tidewater Oil Co.'s East Texas district, with headquarters in Kilgore. Before joining Tidewater, Scott served as general superintendent of Getty Oil Co.'s Kuwait operations in the neutral zone.

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Two Worthy Goals for the Industry

JACK RATHBONE CREATED FOR HIMSELF two big goals in his role as the new chairman of the American Petroleum Institute: promoting better public relations and better intra-industry relations.

He could not have picked two better problems to attack. The industry's recent history has been characterized by the lack of a positive approach to public relations and the lack of unity among the various branches. Oil's position today in terms of public acceptance and confidence is at a low ebb.

Good public relations and good intra-industry relations go hand in hand. And the latter must, by necessity, be Rathbone's first target to shoot for.

The API directors could not have picked a better man for the role. The Jersey Standard president is a plain-spoken, effective executive, with little patience for incompetence and inefficiency. The job will require all the resources he can muster to unify the diverse views that have been magnified out of proportion during the long period of internal bickering.

RATHBONE IS WELL AWARE of the challenge he faces. On the subject of improving intra-industry relations, he says simply that "every segment has to learn that it can't live in a vacuum." He hopes to get his task accomplished through seeking "a better understanding of the rights and wrongs of each segment."

Once he achieves such a better understanding, the new chairman will then be in a position to work for what he says is a "better appreciation of what this industry is doing for our society, our economy, and our national welfare in general."

Such an ambitious undertaking will not succeed unless oil men really want industry unity. The elimination of internal strife will require some sacrifices and compromises in all branches. Once that is understood by oil men, industry unity can be achieved—and possibly it can become lasting.

All too often in the past, the subjects of improving industry relations with the public and improving relations within the industry have been treated as conversation pieces: They're nice to talk about but seldom is anything material done.

WE BELIEVE THE NEW API CHAIRMAN is starting off on the right foot by selecting these two significant goals. Let's hope they can be pushed through to achievement.

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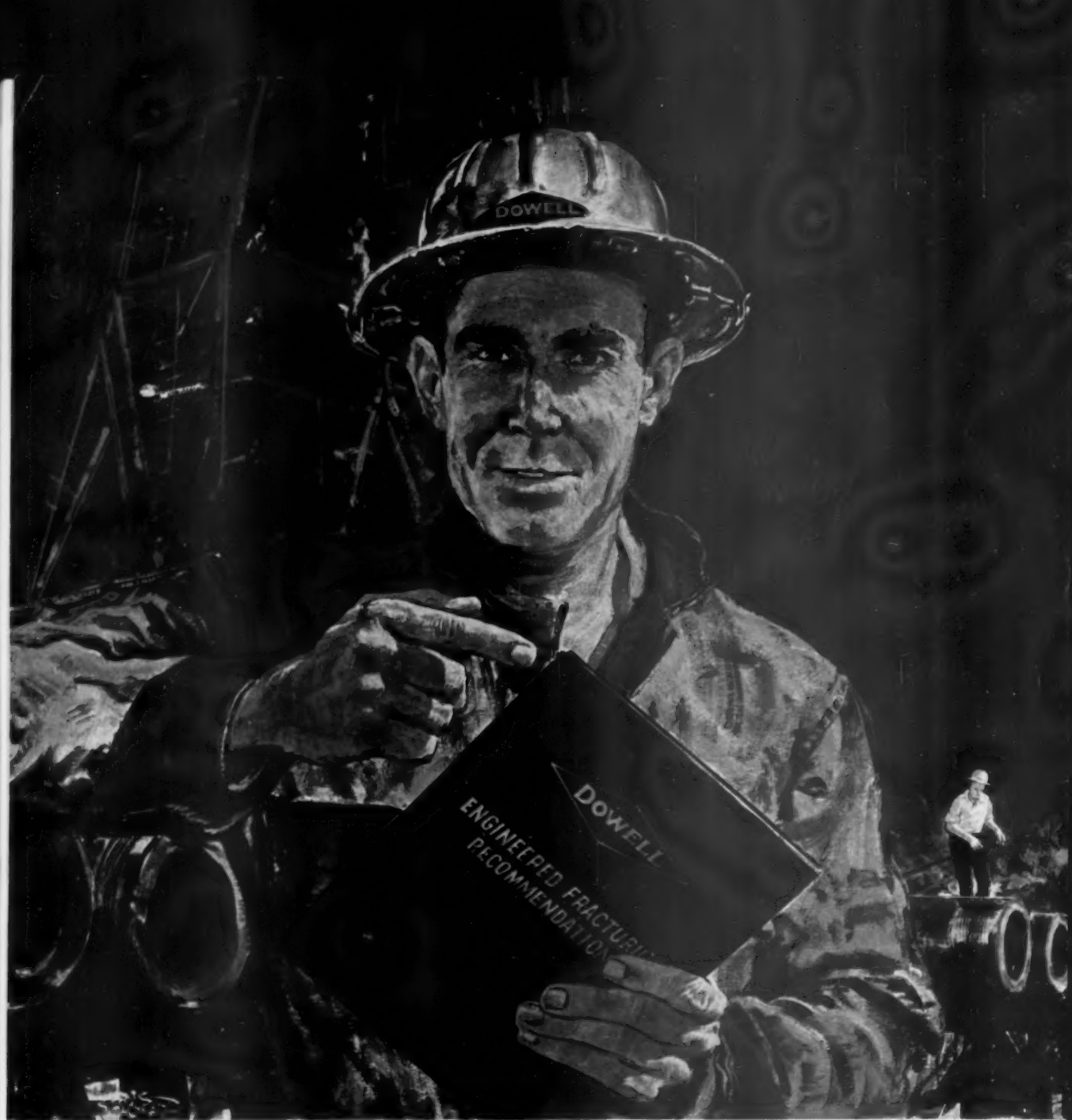

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